



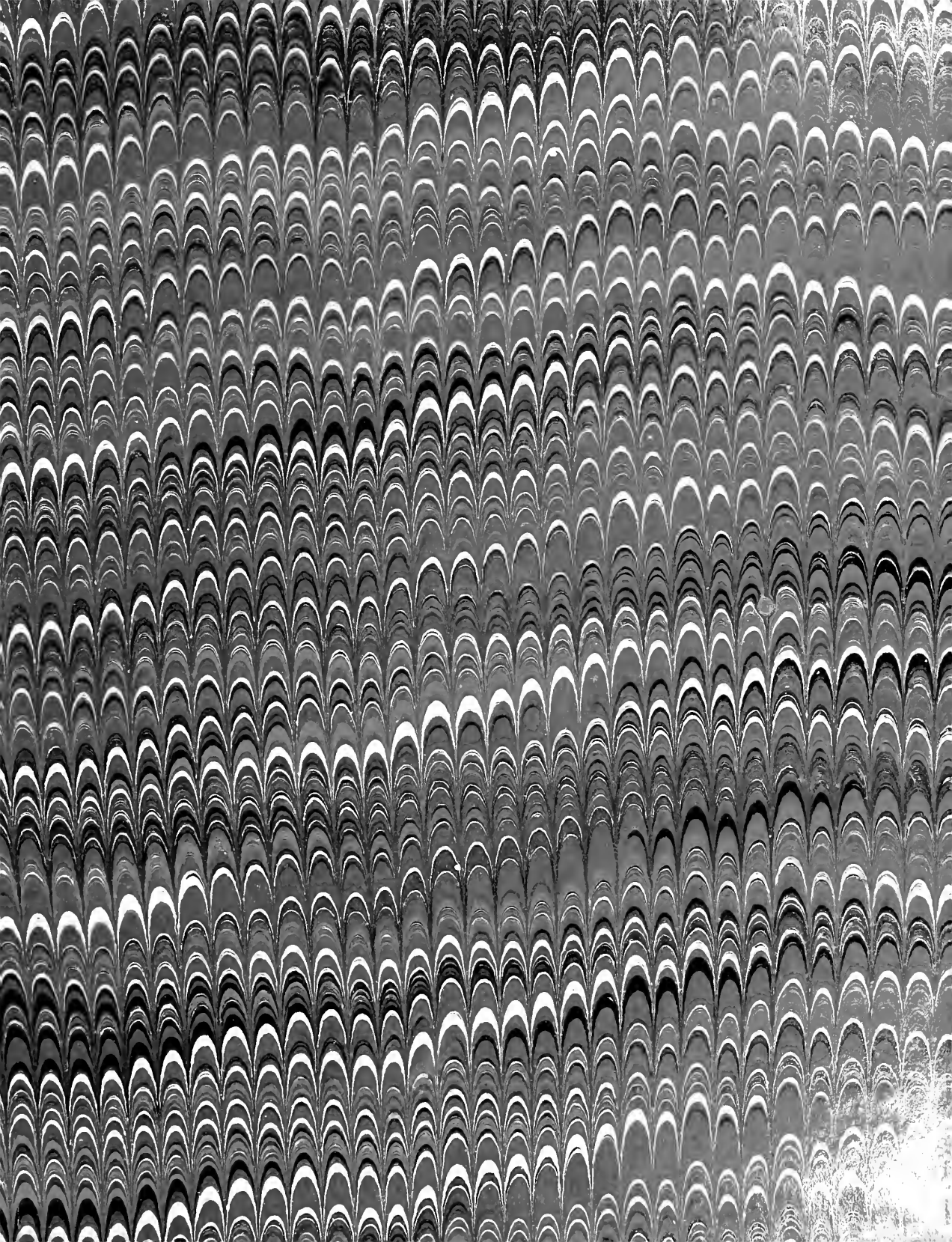
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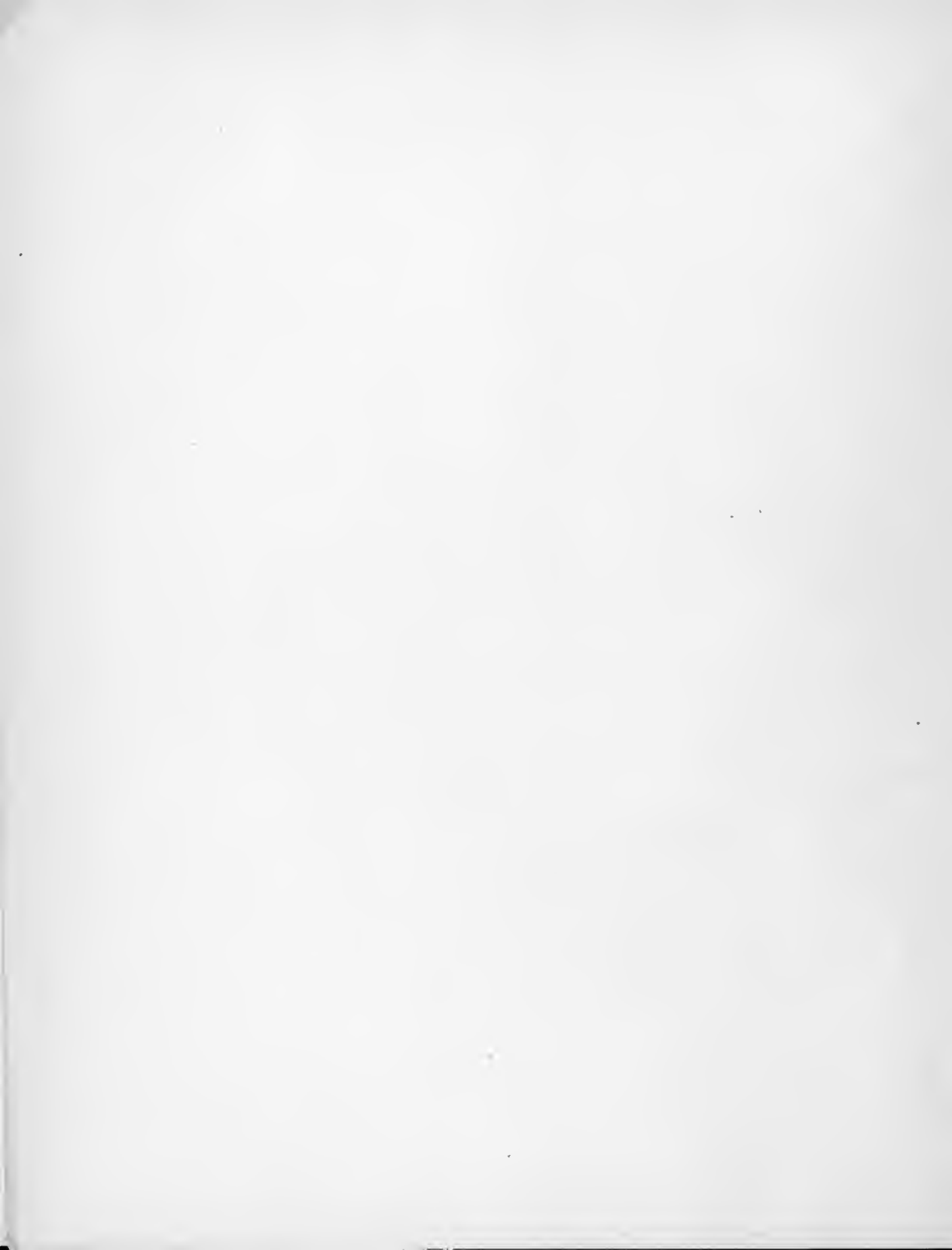
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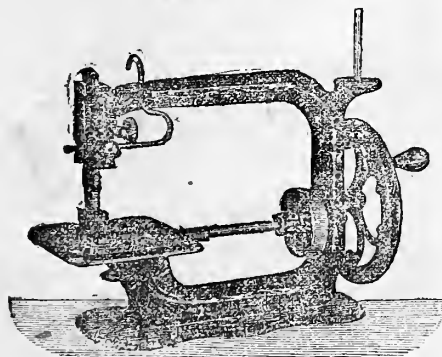
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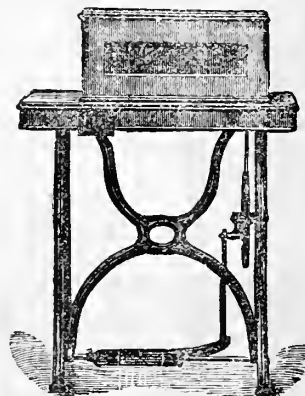
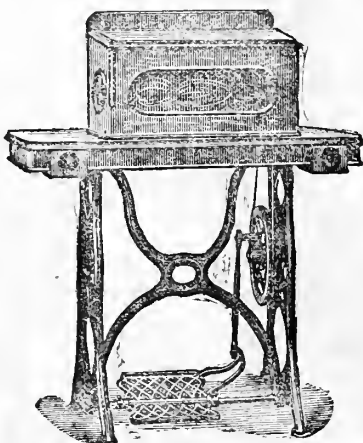
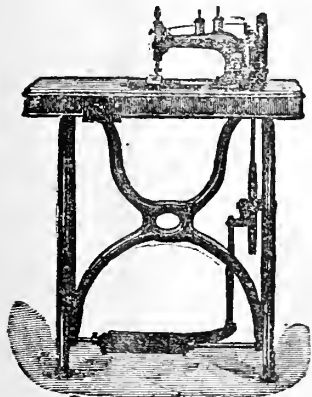
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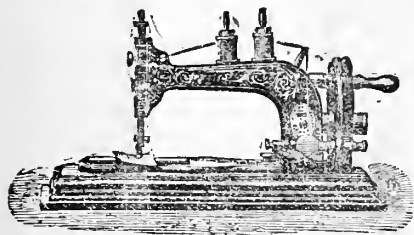
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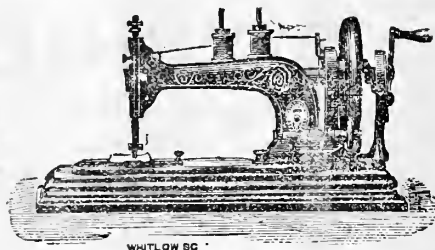
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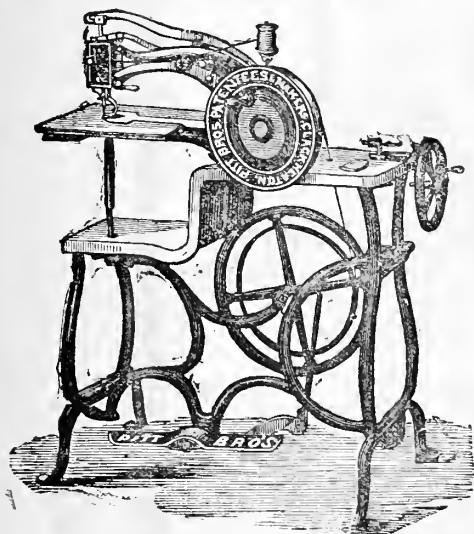
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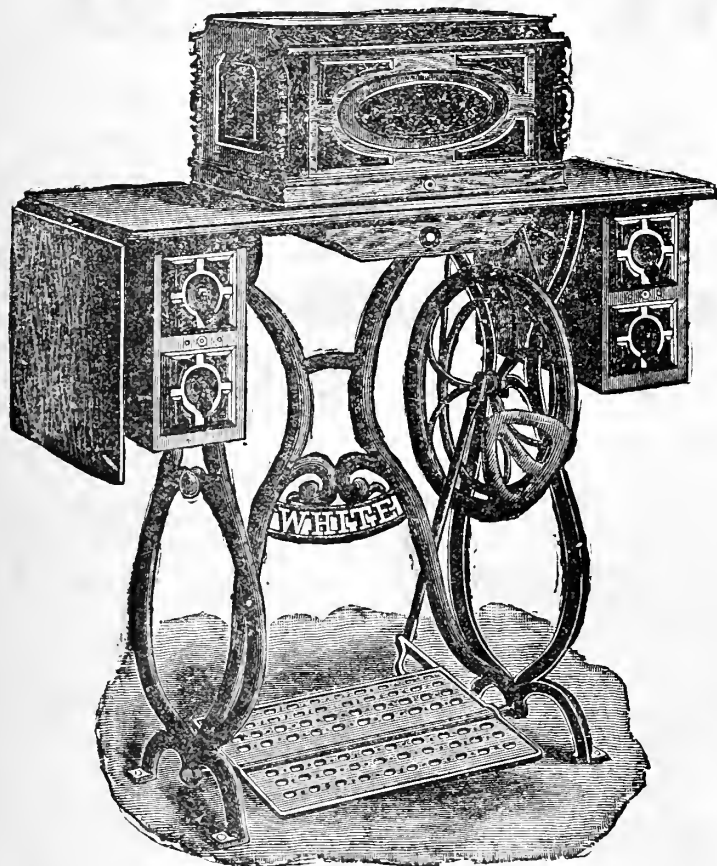
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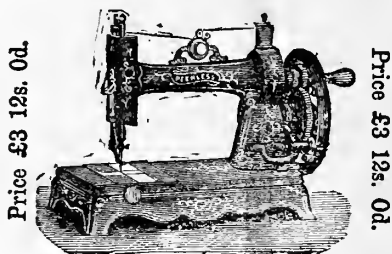
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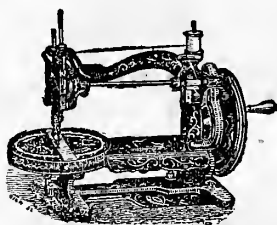


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KNITTING AND EMBROIDERY SILKS, FILOSELLE, &c.

Recommended for Strength, Evenness and Pure Dye. Length indicated on each Label guaranteed.

ONE TRIAL WILL PROVE THEIR SUPERIORITY.

L. & Co.'s Knitting Silks Wash as Well as any produced.

Sold by all Drapers, Haberdashers, Berlin Wool Houses, Sewing Machine Agents, &c.

Wholesale Depot: London, 2, FALCON SQUARE, E.C. • Manchester: 26, YORK STREET.

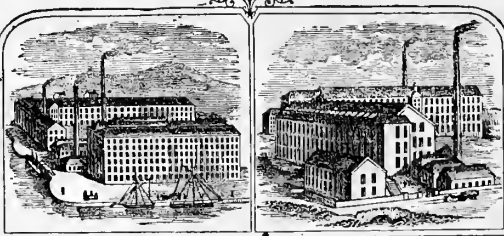
MACHINE COTTON.
SIX-CORD SOFT COTTON.
CROCHET COTTON.
GRAPE COTTON.



CARLILE & CO.

TRADE MARK

ESTABLISHED 1752.



SEWING COTTON MANUFACTURERS,
PAISLEY.



MARKING COTTON.
PATENT GLACE COTTON.
TATTING COTTON.
EMBROIDERY COTTON.

CARLILE & CO.'S SIX-CORD SOFT AND EXTRA QUALITY GLACE

BEING OF VERY SUPERIOR QUALITY, ARE SPECIALLY ADAPTED

FOR MACHINE SEWING.

C. and Co. beg to direct attention to their
celebrated CROCHET or TATTING COTTON, in
Hanks or Balls.

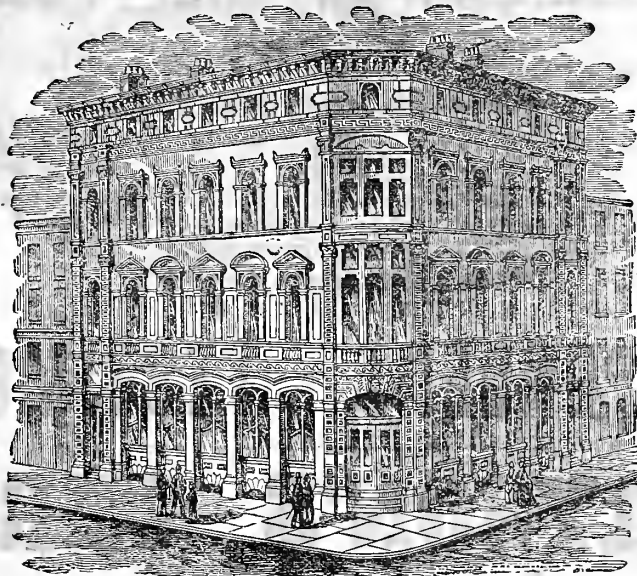


ESTABLISHED 1752.

ESTABLISHED 1836.

STUBBS' MERCANTILE OFFICES

TRADE AUXILIARY COMPANY, LIMITED.



HEAD OFFICES:

42, GRESHAM ST., LONDON, E.C.

West End Branch, 53, Conduit Street, Regent St., W.

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For IRELAND. { DUBLIN—21, College Green.
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For SCOTLAND. { GLASGOW—21, St. Vincent Place.
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With Agents and Correspondents throughout the Kingdom, on the Continent of Europe, and in the United States of America, and the British Colonies.

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LONDON—THE UNION BANK OF LONDON.

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With their various associated Agencies, form together a complete organisation for the protection of Bankers, Merchants, Manufacturers, Traders, and others, against risk and fraud in their various commercial transactions.

Subscribers to these Offices can, by their Agency, recover debts due to them with promptitude. Stubbs' "Weekly Gazette" supplies information which is absolutely indispensable to Traders.

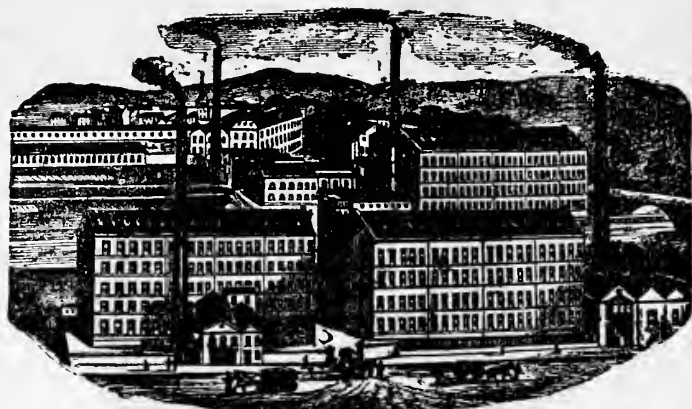
TERMS OF SUBSCRIPTION

(Except for Special Service and Financial Departments, in which the Rates will be fixed by Agreement according to the circumstances.) ONE, TWO, THREE, and FIVE GUINEAS, according to requirements.

PROSPECTUSES GIVING FULL PARTICULARS ON APPLICATION.

CAUTION.

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JOHNSTONE FLAX MILLS.

INDEPENDENT TESTIMONY.

FINLAYSON'S THREAD,

AT THE

GREAT AMERICAN LEATHER FAIR

The Threads manufactured by FINLAYSON, BOUSFIELD & CO. are in practical and exclusive use during the Exhibition in Mr. Tilton's Boot Factory, and by the Goodyear, the Blake, the Keats, the National Wax Thread Machines, and by the New International Dry Thread Machine. This, as a practical endorsement of this Thread, is certainly very suggestive, and it is doubtful whether stronger testimony, from those best qualified to judge, could possibly be given, 'as to the quality of the article under notice.'—*Boston Advertiser*, September 10, 1881.

FINLAYSON, BOUSFIELD & CO.,
FLAX MILLS,
JOHNSTONE, near GLASGOW,
 AND
GRAFTON FLAX MILLS U.S.

Sydney Exhibition.

PRIZE
MEDAL



AWARDS
1880.

TAYLOR AND WILSON'S

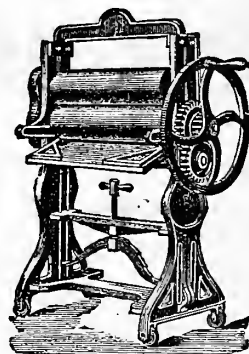
"HOME" WASHER	. . .	FIRST PRIZE
"DOLLY" WASHER	. . .	SECOND PRIZE
WRINGING MACHINE	. . .	FIRST PRIZE



Price, £6 : 6 : 0.



Price, £3 : 10 : 0.



Price, £3 : 5 : 0.

Awarded upwards of 150 Gold and Silver Medals and First Prizes.

THE ANNUAL SALES EXCEED THOSE OF ANY OTHER WASHING MACHINE.

Our Goods are all guaranteed to be made from the best materials, thoroughly seasoned, and are all fitted with our well-known patents and appliances, which cannot be supplied by any other maker.

Illustrated Catalogue free on application to

TAYLOR & WILSON,

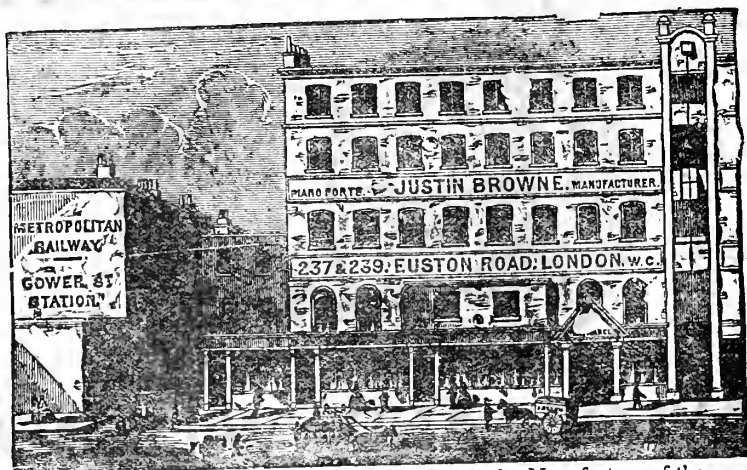
Atlas Works, Clayton-le-Moors, Accrington.

JUSTIN BROWNE

PIANOS

FOR

TROPICAL CLIMATES



WITHSTAND HEAT OR COLD.

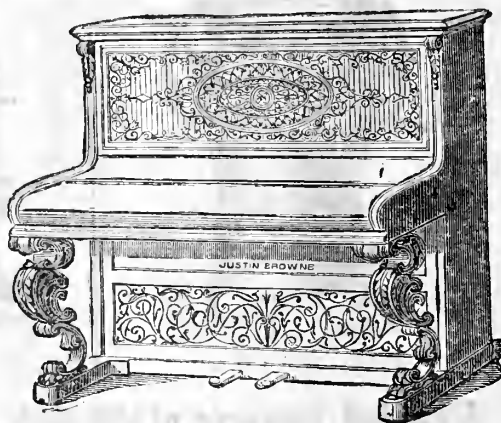
WHICH WILL

PIANOS

Having had a long practical experience in the Manufacture of the

PIANOFORTE

Expressly for Exportation to extreme climates, has succeeded in producing an Instrument which combines English durability and soundness, with first-class quality of tone.



JUSTIN BROWNE can refer to customers whom he has supplied in New Zealand, Costa Rica, Peru, Calcutta, &c., all of whom have expressed the greatest satisfaction, and renewed their orders. His prices will be found to be extremely low in proportion to the quality of Pianos, and in comparison with those of other Houses where the same degree of soundness and durability is studied, the reason of the difference being that in their case, selling as they do retail, there are heavy expenses for Show Rooms, Advertising, &c., which as a Wholesale Manufacturer he does not incur; having only Factory expenses, he can offer an equally good instrument at a much lower figure.

CATALOGUES OF DESIGNS AND PRICES SENT FREE.

JUSTIN BROWNE,
PIANOFORTE MANUFACTURER,

237 & 239, EUSTON ROAD, LONDON, ENGLAND.

"The Coventry Triumph" Bicycles & Tricycles.

WARMAN, LAXON, ASLATT & CO.,

WEST ORCHARD, COVENTRY,

WHOLESALE AND EXPORT MANUFACTURERS.

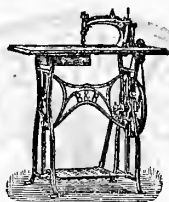
India Rubber Tyred Bath Chair and Perambulator Wheels. Speciality Children's Bicycles and Tricycles. Manufactures for this Season cannot be surpassed. Price Lists on Application.

THE NEW STRAIGHT NEEDLE MACHINE

"Phoenix,"

Made on the new Wheeler and Wils - s principle (No. 8).

LATEST
IMPROVEMENT:
THE LOOSE
WINDING WHEEL



NEW HAND
MACHINES
ON THE
SAME PRINCIPLE.

NOISELESS, LIGHT RUNNING AND DURABLE.

BAER & REMPEL, Billefeld, Germany.

Sewing Machine Manufacturers.

PRIZE MEDALS AWARDED, VIENNA 1873, PARIS 1867.

THE LARGEST

THE LARGEST SEWING

THE LARGEST SEWING MACHINE

SEWING MACHINE FITTINGS

Machine "Belt"

Manufacturers.

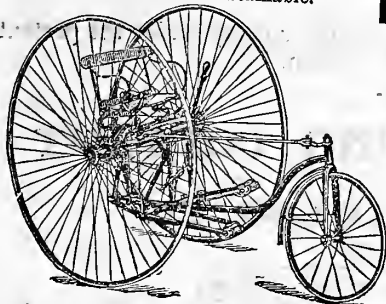
Oil

Manufacturers.

Warehouse.

Bishop's Cluster Company, Limited, 25, Hamsell St., London, E.C.

NO. 2. PERFECTION. Jackson's Patent.
12 Miles an Hour Obtainable.



Especially suited to Ladies. Price £16.
Easy, Safe and Graceful.

TIMMS & CO.,

EAST STREET WORKS,

COVENTRY.

MANUFACTURERS OF

TRICYCLES AND

BICYCLES,

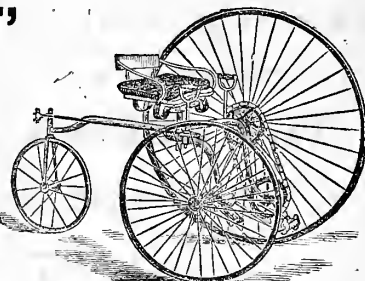
BATH CHAIR

AND

PERAMBULATOR WHEELS.

Illustrated Lists on application.

Favourite Rotary Action.



Compact and Neat.
Price £14 14s.

THE SINGER MANUFACTURING COMPANY,

The largest Sewing Machine Manufacturers in the World.

Upwards of 538,609 of these CELEBRATED MACHINES were Sold in the year 1880, being at the rate of over 1,800 for every working day.

THE GREAT SALE affords most convincing proof of their popularity and value, and is attributable to the reputation obtained for

Excellence of Manufacture, Strength and Beauty of Stitch;

AND FOR THEIR

Perfect Adaptability to every Class of Sewing.

PRICE

from

£4 4s.

FOR CASH

from

£4 0s.

May be had on "Hire, with option

of Purchase," by paying

2/6

PER WEEK.



No Household should be without one of the

Family Machines,

which are unequalled

for all Domestic

Sewing. So simple, a

child can work them.

MANUFACTURERS should see the

Manufacturing Machines!

Are unsurpassed for the Factory or

Workshop!

CAUTION!

BEWARE OF IMITATIONS! Attempts are made to palm them upon the unwary under the pretext of being on a "SINGER Principle" or "System."
To AVOID DECEPTION buy only at the Offices of the Company.

THE SINGER MANUFACTURING COMPANY

(Formerly I. M. SINGER & Co.),

Chief Counting-House in Europe—39, FOSTER LANE, E.C.

323 Branch Offices in the United Kingdom.

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81 & 83, Newington Causeway, S.E.
149, Southwark Park Road, S.E.
378, Clapham Road, S.W.

144, Brompton Road, S.W.
269, Commercial Road, E.
174, Hackney Road, E.
45, Broadway, Stratford, E.
8, Ordinance Row, Barking Road,
Canning Town, E.

6, High Street, Woolwich.
7, Kew Road, Richmond, S.W.
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131, South Street, Greenwich, S.E.
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PROVINCIAL OFFICES:

ENGLAND.

Accrington, 9, Peel-street
Aldershot, Victoria-road
Alfraton, 68, King-street
Ashford, 17, Marsh-street
Ashton-n.-Lyne, 246, Stamford-st.
Aylesbury, Silver-street
Bakewell, North Church-street.
Banbury, Market Place
Barnsley, Eldon-street
Barrow-in-Furness, 11, Dalkeith-street
Bath, 5, Quiet-street
Bates, Commercial-street
Bedford, 56, Midland-road
Bicester, Sheep-street
Biggleswade, Shortmead-street
Bingley, Main-street
Birkenhead, 164, Grange-lane
Birmingham, 93, New-street
Bishop Auckland, 29, South-rd.
Bishop Auckland, Wind Hill
Blackburn, 54a, Church-street
Blyth, Woodbine-ter., Waterloo
Bolton, 32, Newport-street
Boston, 35, Market-place
Bradford, 38, Mechanics' Instit.
Braintree, 7, Fairfield-road
Bristol, 3, Crown-street
Brighton, 6, North-st., Quadrant
Bristol, 18 & 19, High-street
Bromley (Kent), 16, High-street
Bury, 110, St. James-street
Burton-on-Trent, 76, Guild-street
Bury-St.-Edmunds, 78, St. John-st.
Cambridge, 17, Petty Cur
Canterbury, 6, High-street
Carlisle, Lorne-bldgs., Bank-st.
Otham, 342, High-street
Cheshire, High-street
Chelmsford, High-street
Cheltenham, 24, Fittville-street
Chester, 68, Foregate-street
Chesham, 1, Corporation-bldg.
Chichester, 54, East-street
Chorley, 50, Clifford-street
Cleckheaton, 8, Crown-street
Clitheroe, 33, Walkgate
Colville, Station-street
Colchester, 32, St. Botolph-street
Colne (Lancashire), 1, Arcade
Conington, 7, Mill-street
Covey, 12, Fleet-street (op. Bablake Church)
Crewe, 67, Watwich-road
Darlington, 16, Prebend-row
Dartford, 15, High-street

Deal, 124, Beach-street
Denbigh, 56, Park-street
Derby, 22, Wardwick
Dewsbury, Nelson-street (top of Daisy-hill)
Doncaster, 23, Scot-lane
Douglas (Isle of Man), 5, Strand-street
Dover, 9, Priory-street
Dovercourt, Harwich-road
Dudley, 217, Wolverhampton-st.
Durham, 3, Neville-street
Eastbourne, 46, Terminus-road (two doors from post office)
Woolcs, 81, Church-street
Exeter, 19, Queen-street
Folkestone, Market-place
Glossop, 116, Westgate-street
Grantham, 11, Wharf-road
Gravesend, 20, New-road
Grimsby, 57, Freeman-street
Guernsey, 17, Smith-street
Guildford, 181, High-street
Halstead, 53, High-street
Hanley, 48, Piccadilly
Harrogate, 11, Westmoreland-st.
Hastings, 48, Robertson-street
Heckmondwike, 2, Market-street
Hednesford, Station-street
Hereford, 37, Commercial-street
Hertford, Forden House, Ware-road
Hexham, 20, Market-place
High Wycombe, 123, Oxford-rd.
Hinckley, Castle-street
Huddersfield, 8, New-street
Hull, 61, Whitefriargate
Huntingdon, High-street
Ilkerton, 75, Bath-street
Ipswich, 19, Butter-market
Jersey, 14a, New-street
Keighley, 2, Market-place
Kendall, 3, Wildman-street
Kidderminster, Bull Ring
Lancaster, 19, Brook-street (corner of Penny-street)
Leamington, 38, Windsor-street
Leeds, 14, Boar-lane
Leek, 27, Russell-street
Leicester, 44, Granby-street
Lewes, 164, High-street
Liverpool, 21, Bold-street
Longton (Staffs.), 12, Market-ter.
Loughborough, 44, Market-place
Lowestoft, 128, High-street
Luton, 24, Park-street
Lynn, 9, Wood-street
Maidstone, 8, King-street

Maldon, High-street
Manchester { 105, Market-street
 { 132, Cheetham-hill
 { 489, Stretford-road
Manningtree, 32, High-street
Mansfield, 32, Nottingham-street
Market Drayton, Shropshire-st.
Market Harborough, Church-street
Melton Mowbray, Victoria House, Market-place
Middlesboro', 39, Newport-road
Morley, 4, Bradford-buildings, Chapel-hill
Newark, 15, Kirkgate
Newcastle-on-Tyne, 16, Grainger-street, W.
Newcastle-under-Lyne, 34, Bridge-street
Newport (Mon.), 28, High-street
Newport (I. of Wight), 91, Pyle-st.
Newton Heath, 622, Oldham-road
Northampton, 3, Market-square
Northwich, 17, Witton-street
Norwich, 55, London-street
Nottingham, 20, Wheelergate
Oadham, 70, Yorkshire-street
Openshaw, 37, Ashton-old-road
Ormskirk, 38, Aughton-street
Oswestry, Bailey-street
Oteley, 34, Kirkgate
Oxford, 9, New-road
Penrith, 3, Castlegate
Peterborough, 53, Narrow Bridge-street
Plymouth, 3, Bank of England-pl.
Pontefract, 11, New Market-hall
Portsea, 165, Queen-street
Preston, 147, Friargate-street (opposite Lune-street)
Ramsgate, 31, West Cliff-road
Ratneston, Bank-street
Reading, 81, London-street
Red Hill, High-street
Retford, 3, Grove-street
Ripley, Market-place
Lipon, 1, Blossomgate
Rochdale, 66, Yorkshire-street
Rotherham, 102, Main-street
Rugby, Lawford-road
Runcorn, High-street
Byde (Isle of Wight), 78, Union-st.
Saffron Walden, Church-street
Salisbury, 56, Fisherton-street
Salford, 4, Cross-lane, and 100, Regent-rd.
Scarborough, 30, Hunniss-row

Scottholme, Basford-road
Sheffield, 37, Fargate
Shipley, 19, Kirkgate
Slough, 4, Market-street
Sittingbourne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 23, Gosol-road
Stanford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, 6, Church-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadincote, Station-street
Swindon, 52, Regent-street
Tamworth, 54, Church-street
Taunton, Bridge-street
Torquay, 59, Fleet-street
Truro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Walsall, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-street
Wednesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Windsor, 64a, Peasod-street
Winstrod, Over-lane
Wirksworth, North-end
Wisbeach, 31, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-row
York, 24, Convent-street

WALES.

Abergavenny, 19, Market-street
Aberystwyth, Market-hall
Builth, High-street
Cardiff, 8, Queen-street
Carmarthen, 7, Llanmaes-street
Carmarvon, 5, Bridge-street
Dolgelly, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pontypridd, Market-hall
Swansea, 108, Oxford-street

SCOTLAND.

Aberdeen, 225, Union-street
Arbroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Cupar-Fife, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 28, Castle-street
Galashiels, 62, High-street
Glasgow, 59, Union-street
Greenock, 3, West Blackhall-st.
Hamilton, 32, Cadrow-street
Hawick, 2, Tower-knope
Inverness, 14, Union-street
Kilmarnock, 83, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Parrick, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 81, Murray-place
Thorn, Lamington-street
Tuscar, Princes-street

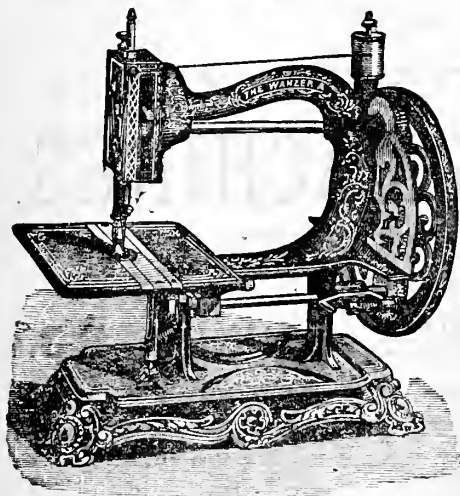
IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st.
Belfast, 3 and 4, Donegal-sq., N.
Carlow, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
Galway, Donnick-street
Kilrush, Moore-street
Kingstown, 55, Lower George-st.
Limerick, 31, Patrick-street
Londonderry, 1, Carlisle-road
Mullingar, Greville-street
Navan, Tringate-street
Newry, 18, Sugar-island
Parsonstown, 2, Saffins
Queenstown, Harbour-row
Sligo, 45, Knox-street
Tralee, 50, Bridge-street
Waterford, 134, Quay
Wexford, Balkin-street

THE "WANZER"

LOCK-STITCH, HAND OR FOOT, SEWING MACHINES.

First Prize Medals, Honours & Awards, wherever Exhibited.



WANZER "A"

IS THE

Great Mechanical Success of the Age.

It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

THE NEW "LITTLE WANZER."—Entirely reconstructed and improved. Nickel-plated, Loose Wheel, New Patent Shuttle, Take-up Lever and Spooler. £4 4s.

WANZER "A." Simplicity Itself.—The most powerful yet light running Hand Machine, straight race. £4 4s.

WANZER "C" Light Foot Family Machine, entirely New, with every improvement up to 1879. £6 0s.

WANZER "F" Family Machine, with Reversible Feed and Stitch Lever. £7 10s.

WANZER "E" Wheel Feed Machine, for heavy work of all kinds £8 8s.

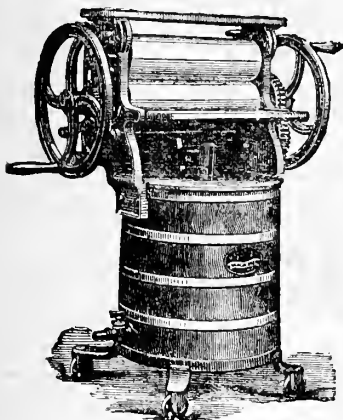
WANZER PLAITING, KILTING AND BASTING MACHINES,

Over 200 varieties of perfect Plaiting or Kilting, from 30s. complete. *The only Machine Kilting and Basting at one operation.*

The Wanzer Sewing Machine Company,
LIMITED,

Chief Office—4, GREAT PORTLAND ST.,
OXFORD CIRCUS, LONDON, W.

NEW HIGH-CLASS WASHING MACHINE.



The "PARAGON" Washer, Wringer and Mangler (KENWORTHY'S Patent) is a compact powerful, and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath, Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize, Silver Medal, General Competition, and also an extra First Prize, Silver Medal for Improvements; Worsley Agricultural Show, the Society's Medal; Altrincham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society's Medal; also gained Prizes and Honours at the Northumberland, Halifax, Tormorden, and Preston Agricultural Shows.

Showing PLUNGER, which works up and down in tub about 50 times per minute, atmospherically forcing the hot water and soap through the clothes, thus not only loosening the dirt but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate article.

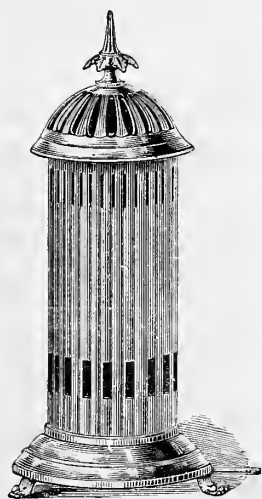
Mr. JORDAN EVANS, 92, Cawder Street, Prince's Road, Liverpool, says:—"I beg to inform you that the 'PARAGON' Washing, Wringing, and Mangling Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in less than two hours."

Patentees and Sole Manufacturers of the Celebrated and World-Renowned PATENT "CANADIAN WASHER," which is the most Simple, most Effective, and the most Economical Washer ever offered to the Public. This is on the same principle as the "Paragon Washer" Plunger, but is made to use by hand in any ordinary maiden tub, washtub, or bowl. Over 30,000 have been sold in a short time.

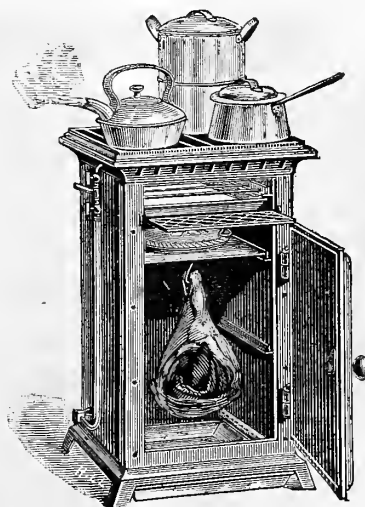
AGENTS WANTED in Districts not yet Represented.

E. N. KENWORTHY & CO., WASHING MACHINISTS, OLDHAM, LANCASHIRE.
ALPHA WORKS,
London Agent, Mr. HARPER TWELVETREES, Finsbury Pavement, E.C.

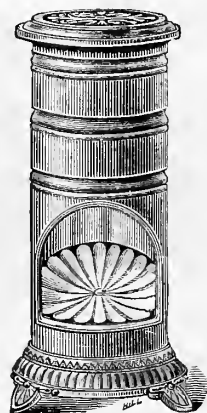
SUPPLEMENT TO THE JOURNAL OF DOMESTIC APPLIANCES,
JANUARY, 1882.



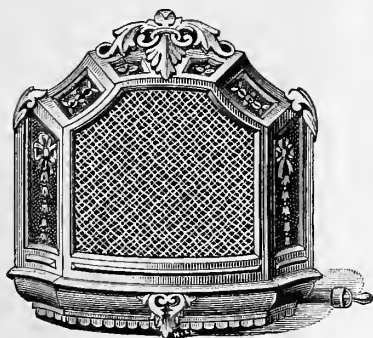
RADIATING GAS STOVE,
from 14/6.



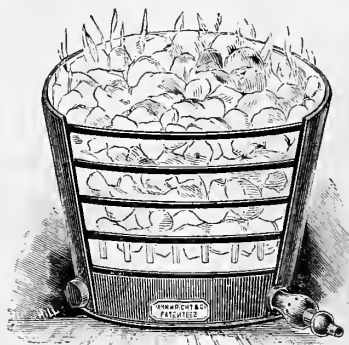
GAS COOKING STOVE,
£2/15/-.



CHEERFUL GAS STOVE,
from 10/-.



THE COSEY GAS FIRE, 21/-.



BASKET GAS FIRE, 10/6.

Novelties in Gas Stoves manufactured by

Messrs. JOHN WRIGHT & Co.,
BROAD STREET, BIRMINGHAM.

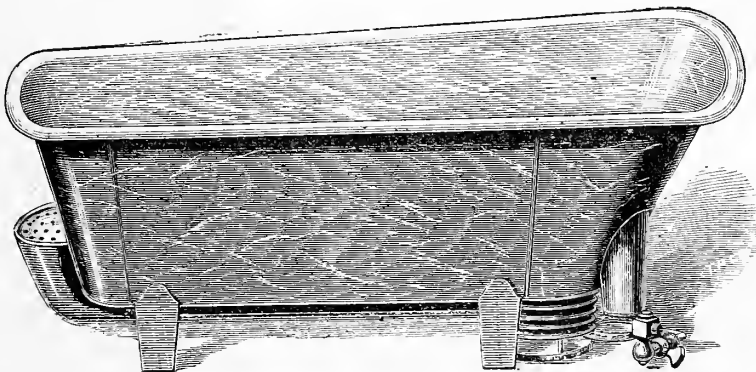


THE BRIGHTON DOMESTIC AND SCIENTIFIC EXHIBITION.

(BY OUR OWN REPORTER.)

ON the 12th ult., the above Exhibition was opened at Brighton by the Earl of Chichester, who was supported by many well-known gentlemen including the Right Hon. the Speaker, the Mayor of Brighton, Dr. Richardson and many of the *élite* of Sussex. The Exhibition comprised all kinds of domestic labour saving machinery, ventilating, heating and cooking apparatus, and every description of draining and sanitary appliances. The opening ceremony took place in the Dome of the Pavilion, the Earl of Chichester giving a brief address. He remarked in the course of his speech that those who imagine country houses to be exempt from the latent causes of disease which infest towns are grievously in error. The germs of low fever, he declared, are as common in mansions as in hovels; and he instanced the dangerous illness of the Prince of Wales as a proof that even Royalty is not always shielded against pestilence by the precautions which science dictates. The Mayor of Brighton

health he considered to be hard work; but this was not infallible for labour as well as idleness was often beset by surrounding dangers. One of the definitions that had been given of the present age was that it is an age of great cities; and they who heard him might realise in their minds the prodigious rate of increase by reflecting that on the morrow the population would be one thousand more than it is to-day. That is, the leaps in number are at the rate of a thousand daily; and though this is taking place throughout the country, it is chiefly proceeding in London, and all the great cities and towns of England. Brighton he considered to be setting a good example in holding this congress, and in making necessary improvements throughout the town. But there remained much yet to be done, as the sight of the smoke-cloud which hangs over Brighton should remind them. This he held to be one of the greatest evils of growing cities. In London it had come to be



Gas Heating Bath.

following his lordship's speech with a statement of particulars concerning the Exhibition. He regretted the absence of several well-wishers to the movement, and among them Sir Philip Cunliffe Owen, who was kept away by illness, Sir Julian Goldsmid, Sir John Hawkshaw, and the Lord Mayors of London and York. Having read or summed up the contents of their letters of apology, his worship said that these were not mere excuses for non-attendance but expressions of sympathy and promises of co-operation. He hoped to see many of the writers before the close of the Exhibition; and meanwhile he was sure that all who heard him would accept with gratification their earnest wishes for its prosperity. Mr. Hamilton then, on behalf of the Town Council, presented catalogues to the principal visitors on the platform; and when this graceful formality was finished the noble chairman called on the Speaker to address the meeting. This Mr. Brand did in a speech of practical purport and pith. He said he had come there to see, hear, and learn, not to teach. Nevertheless, in obedience to the call that had been made on him, he would bear his part in testifying to the value of a congress such as this. One of the best prescriptions for

nearly intolerable, and so it would be in this enormous seaside town, which he was old enough to remember as a mere village. Next to the abatement of the smoke nuisance, he valued the preservation of open spaces, and he had heard a whisper about a Brighton park which he hope would meet an assented response. Mr. Brand's speech was loudly applauded, he was followed by Mr. Holland, M.P., who gave the concluding address, after which the "Hallelujah Chorus" was sung and the Earl of Chichester having made a tour of the building declared the Exhibition opened.

There were many exhibits which do not come within the scope of this journal, these we shall not describe but shall rather confine ourselves to noticing such articles that can be classified as Domestic Appliances for aiding or saving labour, or adding to the economy of the household. Amongst the exhibits of the many I particularly noticed were those of the following firms:—

MESSRS. JOHN WRIGHT & CO., Essex Works, Broad-street, Birmingham.

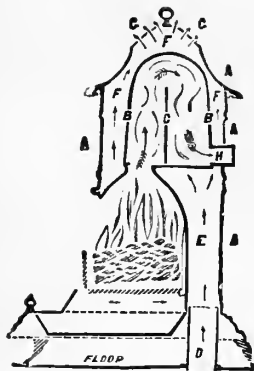
Messrs. Wright and Co. occupied a very large space, and made an excellent show of their well-known gas stoves. The "Eureka Gas

Cooker," which we noticed is jacketed on the sides, top, and door with a new and very efficient non-conducting material, by the use of which a saving to the extent of 40 per cent of gas is effected, by preventing loss of heat in the oven by radiation. Some idea of the value of this non-conductor may be gathered from the fact that a



The "Patent Hygienic" Ventilating Stove.

teacupful of water (jacketed with $\frac{3}{16}$ ths of an inch of the silica), which at ten o'clock stood at 200 degrees Fahrenheit, had at two o'clock lost only 50 degrees of its heat. Stoves made in this way are, of course, a little higher in price than those which are not jacketed; but when the saving in the daily consumption of gas is taken into account, the former are really the cheaper. The hot plate is formed of wrought iron bars, polished upon the top, which form a perfectly flat surface to receive saucepans and



Sectional View of "Hygienic."

kettles, and as the bars are loose they can be instantly removed for cleaning, &c. The hot plate being of wrought iron cannot possibly be broken (as is so often the case where cast iron is used) by water boiling over on to it whilst it is hot, and thereby causing sudden contraction of the metal. In point of finish they are excellent, being mounted with bright fittings, and the gas supply pipe and taps (which are arranged in front of the cooker) are polished and nickel plated. Messrs. Wright's "Gas Fire" was also exhibited. This little article consists of a ornamental frame of cast iron, well finished, and into which is inserted a centre of stout-woven wire-work of double thickness, backed by a fire-clay slab. Strips of platinum wire are interlaced in the wire centre, and the burner is so placed that the flames playing upon these wires cause, first

the platinum, and then the iron, to become red hot immediately after the gas is lighted, producing the effect of a brightly-burning fire. The great radiating power of iron is thus utilised for transmitting the heat, the fire-clay backing serving to intensify the heat upon the wire. The fire may be placed just within the bars of a grate, or it may be arranged to hang upon the bars in front, so that all the injurious products of combustion may pass up the chimney.



Gas Fire Stove.

Another gas stove is "The Duplex," which serves for both heating and broiling. It is beautifully finished with polished top, and is fitted with superior tin pan and gridiron, and with moveable copper reflector. The reflector being moveable, the stove can be used either for cooking or heating, and is a most useful adjunct to every house. The copper kettle is of extra quality. A very useful "Gas Bath," was shown, heated by a burner underneath. In this bath sufficient water for one person may be heated to a temperature of 100 degrees Fahrenheit in 25 minutes at a cost of $\frac{1}{4}$ d. There is no danger whatever in using these baths, as all the products of combustion may be carried off by a flue. Messrs. Wright also showed their "Patent Hygienic Ventilating Stove," in which may be burned an open fire of either coal, coke, asbestos, or anthracite. The two illustrations will explain the principle of this stove.

The dome of iron (B) above the grate is divided by a vertical plate (C), and above this plate pass the heated air and products of combustion on their way to the chimney through the outlet pipe (H). The back of the stove (E) and the interior (F) of the dome constitute an air chamber, into which cold air presses through the duct (D), and finds an exit through the perforations (G) in the dome.

Many other kinds of stoves were shown, and if the reader will refer to one of this month's Illustrated Supplements, he will see that Messrs. Wright and Co.'s manufactures are handsome and of good design.

MR. T. J. CONSTANTINE, 61, Fleet-street, E.C.

The "Patent Treasure" Cooking Range was the chief feature of this stand. It is constructed to economise fuel, and to give great depth of oven and capacity of boiler. Those who are pestered with smoky chimneys will find this stove is really a "treasure." A variety of patent cooking utensils were also shown by Mr. Constantine.

MESSRS. DOULTON & CO., Lambeth.

A good collection of baths and bath fittings were exhibited by Messrs. Doulton and Co., also a variety of filters, drain pipes, lavatories, and such articles. Messrs. Doulton are widely famed for the excellence of their pottery and sanitary appliances of every description.

MESSRS. SAVORY & MOORE, 143, New Bond Street, W.

Amongst a collection of articles such as cod liver oil, food for infants, and other chemical foods, I noticed an article which is strictly speaking a domestic appliance. Messrs Savory and



"Carbolie Fumigator."

Moore's Patent "Vaporizer," or "Carbolie Fumigator" for disinfecting the air, furniture, bedding, clothes, &c., is an excellent article for use in a house that has been visited by fever. A few of these well used would not in any way do harm to some of the dens of fever constantly heard of in London.

THE WHEELER & WILSON MANUFACTURING COMPANY,
21, Queen Victoria Street, E.C.

A collection of hand and treadle sewing machines for the home and the manufactory formed the exhibit of this company. Their machines are suited for every class of work and lately several minor improvements have been made in them. The work exhibited showed not only that this company must have some skilled operatives but that their machines are so well adapted for ornamentation as they are for plain sewing. The finish and make of the machines will bear the most minute inspection.

MR. GEORGE KENT, 201, High Holborn, W.C.

Everybody would know what to expect as the exhibit of Mr. Kent. His knife cleaners were there in abundance together with mincing, carpet sweeping, mixing, washing, wringing and other machines. Apple parers, lemon squeezers, bread cutters and other culinary appliances of the usual type were shown by Mr. Kent.

MR. T. HANSELL, Upholsterer, St. Albans.

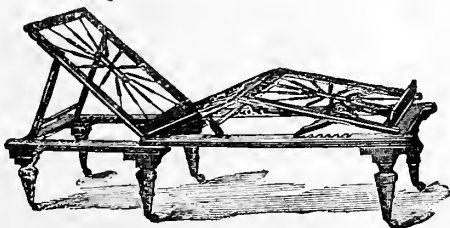
Mr. Hansell exhibited his patent new combination cot. This cot is convertible into an improved bassinet, with removable rockers, and also into a nursery or invalid's table. It is one of the most ingenious, yet simple and useful, inventions we have ever seen. It attracted a great amount of attention from the Brighton public.

THE SINGER MANUFACTURING CO., Foster-lane,
London, E.C.

A good collection of sewing machines were exhibited by this well-known sewing machine firm. Their new oscillating shuttle machine, which will make 4,000 stitches a minute, was shown amongst many others of their manufacture.

MESSRS. CHORLTON & DUGDALE, 19, Blackfriars Street,
Manchester.

The "Excelsior" spring mattress, the "Matlock" couch, and a pillow divider, together with bed rests and invalids chairs form



The "Matlock" Invalid Couch.

such an exhibit as would be welcome to many hospitals and con-

valsent homes. The "Sunlight" cooking and heating stoves have often been shown by this firm, and they were looked upon as favorably by the Brighton public as they have been elsewhere.

MESSRS. F. & C. HANCOCK, Oxford-street, Dudley.

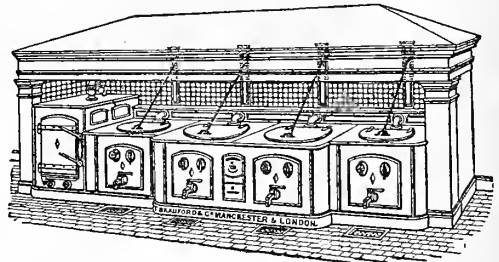
The exhibits of Messrs. Hancock were chiefly machines for washing, cooling, and salting butter, and which are specially adapted to the hotel or dairy. Machines for kneading flour and dough were also exhibited.

MESSRS. RITCHIE & CO., 23, St. Switlin's-lane, E.C.

A handsome stove for heating conservatories, halls, and such places, is the patent "Lux-Calor," exhibited by Messrs. Ritchie and Co. This stove stands from 4 ft. to 6 ft. high, burns either oil or gas, and emits no unpleasant fume.

MESSRS. BARDFORD & PERKINS, Peterborough.

A steam cooking apparatus, specially adapted for unions, gaols, asylums, hospitals, &c., exhibited by this firm. This apparatus, of which we give an illustration, is already in use at several large workhouses.



Steam Cooking Apparatus.

THE Highbury Sewing Machine Co., 33, Holloway-road,
London, N.

A general collection of domestic articles are shown by this Company, including washing and sewing machines, knife cleaners, ironing stoves, and clothes horses.

MESSRS. EDWARDS & SON, 49, Great Marlborough-street,
London, E.C.

Several specimens of a smoke-consuming slow combustion grate, patented and invented by Mr. Edwards, jun., were shown by this firm. Mr. Edwards is the author of many publications relating to warming and ventilation, and he exhibited also some drawings showing how all the culinary operations of a household may be carried on with great economy and without smoke.

MESSRS. H. J. C. DAVIS & CO., 200, Camberwell-road, S.E.

A collection of gas stoves was showed by this firm. Amongst their exhibits I noticed the "Indispensible," the "Cottager," the "Artizan," the "Metropolitan," and others.

MESSRS. WILLIAM SUGG & CO., LIMITED, Vincent Works,
Westminster, S.W.

Messrs. Sugg showed their well-known Argand burners fitted with ornamental Albatrine shades and screens. Amongst their exhibits I also noticed some good gas stoves.

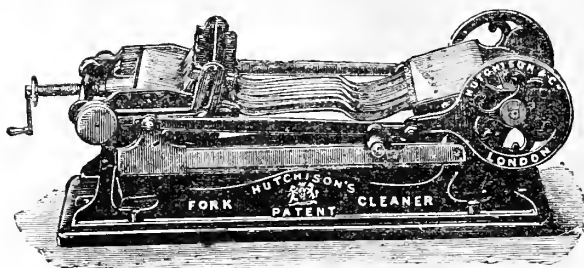
MESSRS. BEEMAN & ROBERTS, 6, King-street, Cheapside, E.C.

The perfected type writer was shown by this firm. This machine is adapted to general purposes, and can be supplied with either small Gothic, small Roman or large Roman capital types. With the machine are included a table, ribbon, ribbon reel, and necessary articles for adjustment and cleaning.

MESSRS. HUTCHISON & CO., Fann-st., Aldersgate-street, E.C.

A fork cleaning machine, to clean either six or three forks at a time constituted the exhibit of this firm. It is a practical in-

withdrawn, and a fresh one substituted at a trifling cost, and without loss of time; whereas the ordinary water-bed if injured in any part (from being in one compartment) is rendered useless.



Hutchinson's "Fork Cleaning Machine."

vention, and of great value to hotels, schools, and families that are large in number. An illustration is given of this machine.

THE HYGIENIC HEATING AND LIGHTING COMPANY,
16, North-buildings, Finsbury-circus, E.C.

Clark's patent "Syphon" Hygienic stoves for heating or lighting by oil or gas were shown by this firm. The same make of stove fitted with copper boiler and hot water pipes is made expressly for greenhouses.

MESSRS. EUGENE GERAUT & CO., Corporation - buildings,
Farringdon-road, London.

Eugene Geraut and Co.'s continuous principle soda water machine was shown. Every part of the machine is bolted and screwed together, so that an inexperienced person can take it to pieces and put it together again without any trouble. I also noticed a good bottling and corking machine and a number of syphons and filters.

MESSRS. STARLEY BROTHERS, Coventry.

The "Salva" tricycle was exhibited by this firm. This machine has in addition to the three carrying wheels a small safety wheel at back. The side wheels are 50-in. for gentlemen and 46-in. for ladies; front wheel, 18 in. The side wheels carry nearly the whole of the weight, sufficient weight only on the front wheel to serve for steering purposes. The back wheel is carried clear of the ground, being merely used for safety, preventing all possibility of a back fall. This machine is fitted with horizontal shafts; the lower one, which is cranked to hold the pedals, is a little in advance of the upper one, the upper one is fitted with patent transmitting balance gear, so arranged as to impart the exact amount of power required by each driving or side wheel. The connection between the pedal and upper shaft is effected by a special chain of the easiest working and most lasting kind. The seat is mounted on an improved spring, which is suitable for ordinary seat or saddle, and can be raised or lowered to suit the height of any rider.

MR. HARPER TWELVETREES, 80, Finsbury-pavement, E.C.

The "Villa" washer so closely connected with the name of Harper Twelvetrees was shown by the exhibitor. Several small improvements have been made in this machine and it now will compare with advantage to any similar machine placed before the public.

MESSRS. T. WOLSTENCROFT & CO, 93, High Holborn.

This firm showed the "Universal Slicer" and the "Victor" knife and fork cleaner with novel inventions.

MESSRS. FOCOCK BROTHERS, 235, Southwark-bridge road, S.E.

This firm exhibited a very clever invention in the shape of a "Universal Tubular" water and air bed. It possesses many advantages over an ordinary air or water bed in as much as it is free from noise and surging, so disagreeable to the invalid by changing his position on a water bed. In case of injury to a tube it can be

MR. E. G. BENFORD, 16, Castle-square, Brighton.

A variety of labour saving appliances including wringing, washing, mangling, knife cleaning and mincing machines, cooking stoves and such articles were shown by this exhibitor. The "White" sewing machine was also to be seen on this stand.

Other exhibitors were Messrs. J. Stott and Co., Oldham, who showed gas valves and acrometers. The Silicated Carbon Filter Co., of Battersea, Messrs. S. and E. Ransome, Essex-street, Strand, and Messrs. Chadburn and Coldwall, Upper Thames-street, E.C.

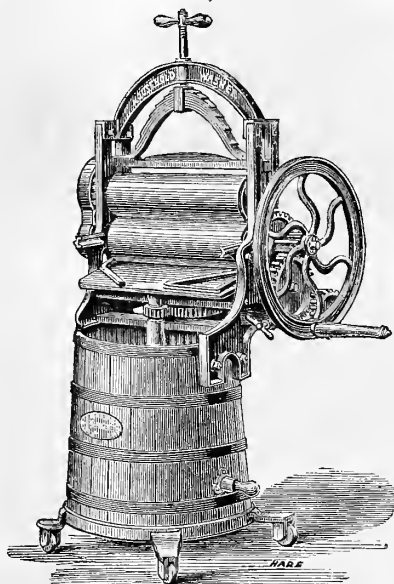
THE REMINGTON TYPE WRITER.

The following account of this invaluable invention appeared in the "Sewing Machine Journal." The great majority of the writing of the world is done in the English language. It is not strange, therefore, that the English were first to seek to overcome by machinery the drudgery of pen writing. It is now more than a century and a half since an Englishman invented a writing machine, and many modifications of the same instrument have since been patented in various countries; but it remained for a Yankee—or, at least, for an American—to make the machine practicable, thus revolutionizing professional writing. The only machine which has ever approached perfection was invented by Mr. C. Latham, Sholes, of Wisconsin, in 1868. This instrument had type set in the ends of bars, all striking to a common center. The bars were thrown up by pressing keys, like the keys of a piano. Between the type and the paper moved a ribbon, which supplied the ink. Above all is a carriage, which moves the paper the width of a type every time a key is struck; and at the end of the line, brings it back and moves it up for a new line. The original machine, as constructed by Mr. Sholes, was very crude and cumbersome; but under the skilful hands of the hundreds of artisans at the mammoth factories of E. Remington and Sons, makers of the Remington sewing machine, it has been developed into a thing of beauty; and so extensively has it been introduced that people who have much writing to do are now looked upon as fogies unless they employ a writing machine. They are being used in the largest establishments of all kinds in America and Europe, and by professional men and writers everywhere, and are shortening the work hours and lightening the labor of ten thousand of the world's busiest workers.

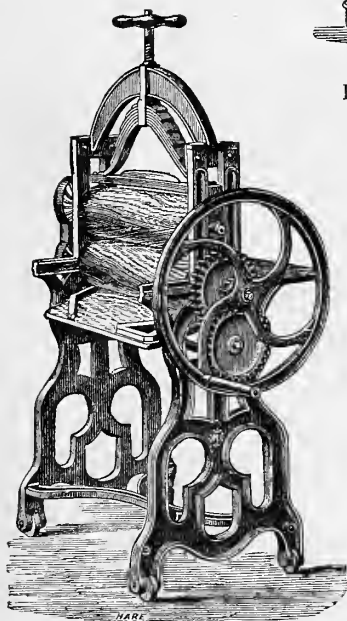
REVIEWS.

The December number of the "Dictionary of Needlework" ("Bazaar" Office, 170, Strand), will be much valued by ladies who are lovers of art needlework. The engravings are quite equal to those in previous numbers, which were excellent. This work, when complete, will form a valuable book of reference, not only to ladies, but to drapers and others. It will be also worth a good binding, and would then prove a most suitable and handsome book for the drawing-room table. The December number (published like all the others at 1s.) treats of Honiton lace, of which there are several excellent illustrations, imitation lace, Indian muslin, Indian floss silk, embroidery, Irish lace, knitting, and many other subjects. We strongly recommend this work to drapers and those engaged in the Berlin wool and fancy trades.

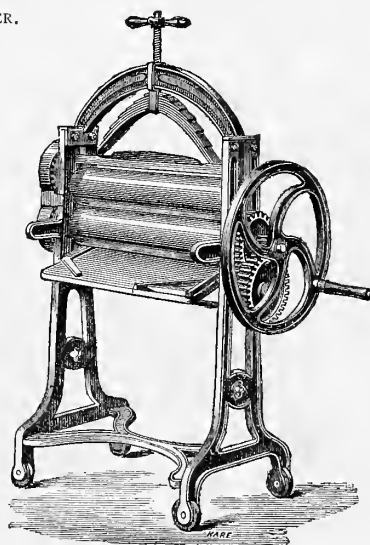
SUPPLEMENT TO THE JOURNAL OF DOMESTIC APPLIANCES,
JANUARY, 1882.



HOUSEHOLD WASHER AND WRINGER.



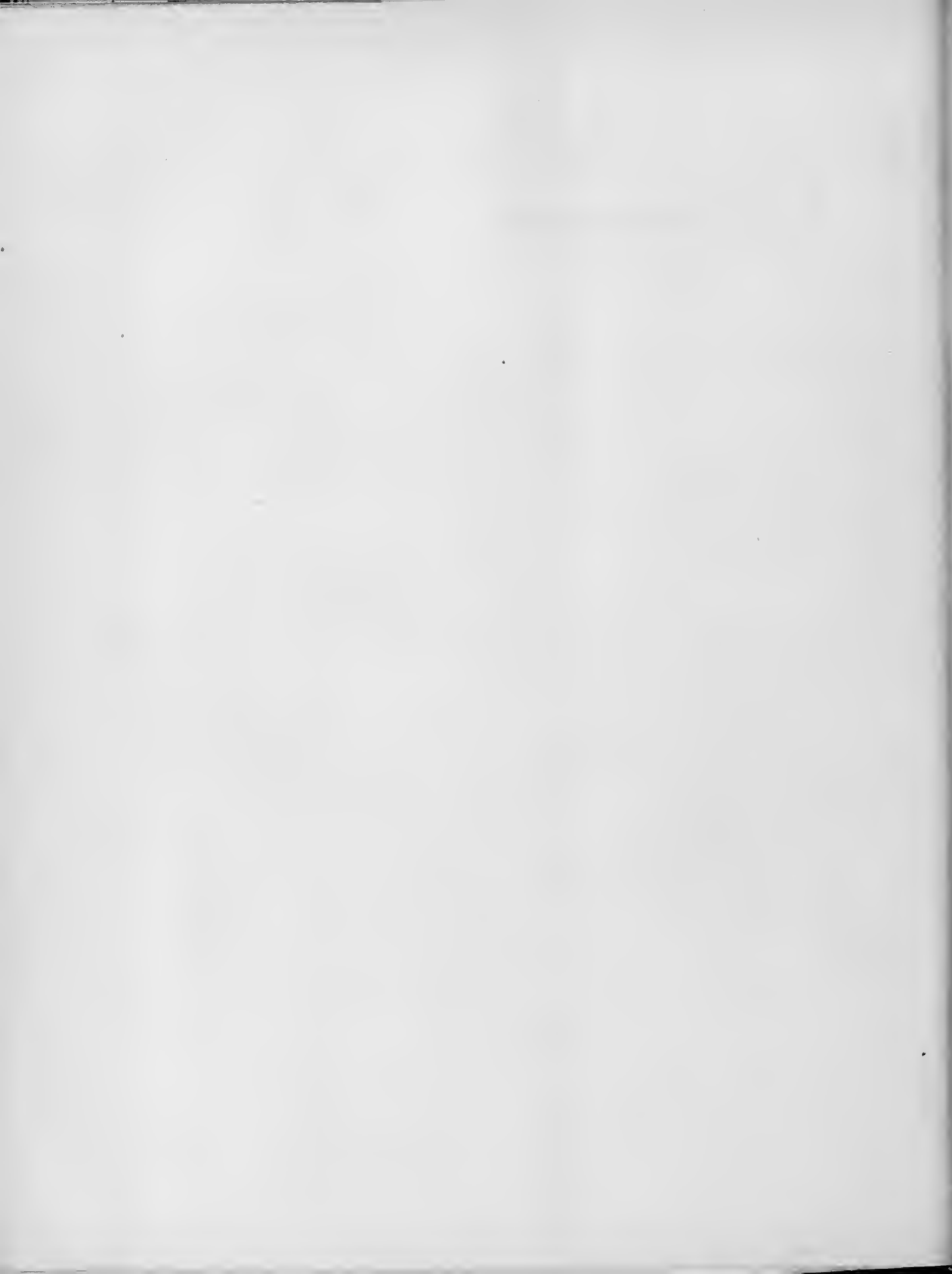
No. 39.—WRINGING AND MANGLING MACHINE.

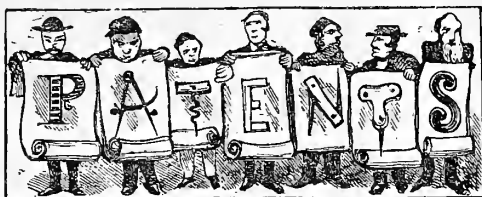


No. 40.—WRINGING AND MANGLING MACHINE.

Washing and Wringing Machines manufactured by

Messrs. W. SUMMERSCALES & SONS,
KEIGHLEY, YORKSHIRE.





The following list has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette," by G. F. REDFERN, Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.

APPLICATIONS FOR LETTERS PATENT:—

- No. 4,951. A. Fortune, of Keighley, Yorkshire, for improvements in washing machines. Dated November 12, 1881.
- „ 4,956. R. H. Lea and G. Singer, both of Coventry, for improvements in the construction of velocipedes, Dated November 12, 1881.
- „ 4,971. C. W. Torr, of Birmingham, Merchant and Manufacturer, for improvements in gas stoves. Dated November 12, 1881.
- „ 4,980. A. M. Clark—a communication from Ferry and Millett, of Luneville, France, for improvements in embroidery machines. Dated November 14, 1881.
- „ 4,987. J. Beagarie, of St. Neots, Huntingdonshire, for improvements in boxes or cases for holding ribbons or other fabrics, and in measuring apparatus combined with such boxes or cases. Dated November 15, 1881.
- „ 4,999. W. Morgan Brown—a communication from N. Wheeler, of Bridgeport, Connecticut, United States, for improvements in sewing machines. Dated Nov. 15, 1881.
- „ 5,005. E. J. Castle, of King's Bench-walk, Temple, Barrister-at-Law, for improvements in velocipedes. Dated November 15, 1881.
- „ 5,016. J. and P. Hawthorn and J. P. Liddell, of New Mills, Derbyshire, Engineers, for improvements in apparatus for soaping, washing or treating woven fabrics. Dated November 16, 1881.
- „ 5,069. E. S. Wilson, of Egremont, Cheshire, for improvements in and relating to the backbones of bicycles, and other frames where great strength and lightness are required. Dated November 19, 1881.
- „ 5,074. G. D. Macdougald, of Dundee, Public Analyst, for improvements in tricycles and other velocipedes. Dated November 19, 1881.
- „ 5,086. H. M. Mellor, of Arkwright-street, Nottingham, for improvements in knitting machines. Dated Nov. 21, 1881.
- „ 5,106. W. E. Price and W. D. Overton, both of Hampton Wick, Engineers, for improvements in velocipedes, parts of which are applicable to other vehicles. Dated November 22, 1881.
- „ 5,113. W. T. Eades, of Birmingham, Mechanical Engineer, for certain improvements, in the construction of velocipedes. Dated November 23, 1881.
- „ 5,114. A. Place, of Macclesfield, Cheshire, for improvements in jacquard machines. Dated Nov. 23, 1881.
- „ 5,131. J. Imray—a communication from A. Boisard, of Paris, for improved apparatus applicable to sewing machines for overcasting. Dated Nov. 24, 1881.
- „ 5,133. A. J. Boulton—a communication from J. Mössner, of Vienna, for improvements in printing cross-stitch embroidery patterns upon various materials, and in apparatus therefor. Dated November 24, 1881.
- No. 5,139. F. Beauchamp, of Edmonton, for improvements in tricycles, velocipedes, and other such like vehicles or carriages. Dated November 24, 1881.
- „ 5,142. L. A. Groth—a communication from C. Ostlund, Engineer, of Stockholm, Sweden, for improvements in apparatus for warming or heating. Dated November 24, 1881.
- „ 5,148. T. Steen, of Ripley, Derbyshire, for improvements in perambulators, bath chairs, and similar vehicles. Dated November 25, 1881.
- „ 5,149. W. H. J. Grout, of Watson-street, Stoke Newington, London, Engineer, for improvements in and connected with velocipedes. Dated November 25, 1881.
- „ 5,166. H. J. Haddan—a communication from D'Arcy Porter and T. H. White, both of Cleveland, United States, for improvements in sewing machines. Dated November 26, 1881.
- „ 5,168. E. A. Bridges—a communication from B. Fischer, Mechanician of Stuttgart, Wurtemberg, for improvements in screw-buttons for articles of apparel. Dated November 26th, 1881.
- „ 5,170. R. Andrews, of Bessbrook, Armagh, Ireland, Flax Preparing Master, for improvements in drawing or preparing frames. Dated November 26th, 1881.
- „ 5,174. L. Webster, of Dewsbury, Yorkshire, Machine Maker, for improvements in machinery employed in washing, scouring and dyeing fabrics. Dated November 26th, 1881.
- „ 5,180. T. Bradford, of Manchester, for improvements in the construction of machines used for washing, wringing, and mangling, part of which invention is also applicable to churns. Dated November 25th, 1881.
- „ 5,186. M. H. Pearson, of Leeds, for improvements in sewing machines. Dated November 28th, 1881.
- „ 5,211. J. Hunt, of Maun-street, Waltham, Mechanical Engineer, and J. S. Fairfax, of Laurence Pountney-hill, Consulting Engineer, both in London, for improvements in sewing machines for making button-holes. Dated November 29th, 1881.
- „ 5,218. F. W. Fox, of Windhill, Yorkshire, Spinner, for improvements in the method of an apparatus for spinning, twisting, and drawing fibrous substances. Dated November 29th, 1881.
- „ 5,247. J. F. Walters, of Queen's-road, Bayswater, London, Engineer, for improvements in machines or apparatus, and in wheel pads for polishing knives, forks, and spoons. Dated November 30th, 1881.
- „ 5,251. W. B. Brooker, of Bootle, Lancashire, for improvements in washing machines. Dated November 30th, 1881.
- „ 5,252. H. J. Haddan—a communication from J. H. D. Everett, of Toronto, Canada, for a new or improved clothes dryer. Dated December 1st, 1881.
- „ 5,253. J. T. Townsend, of Coventry, Bicycle and Tricycle Manufacturer, for improvements in tricycles. Dated December 1st, 1881.
- „ 5,284. N. K. Husberg, of Stockholm, Sweden, and of Cow-cross-street, London, for improvements in tricycles and quadricycles. Dated December 3rd, 1881.
- „ 5,287. C. Beger, of Berlin, Germany, for improvements in velocipedes. Dated December 3rd, 1881.
- „ 5,305. C. R. B. Hamilton, of Greenwich, Kent, for improvements in the construction and arrangement of saddles for bicycles and other similar vehicles. Dated December 5th, 1881.
- „ 5,318. J. Imray—a communication from F. Steeg, of Düsseldorf, Germany, for improvements in dress suspenders or braces for children. Dated December 5th, 1881.

- No. 5,319. S. Sturm, of Cologne, Germany, for improvements in means and apparatus for increasing the heating power of domestic stoves and fire places. Dated December 5th, 1881.
- „ 5,324. W. Saunders, of Stepney, London, for an improved implement and receiver for cleansing floors and surfaces. Dated December 6th, 1881.
- „ 5,326. A. Mill, of Glasgow, for a new or improved washing machine, also applicable for mixing, churning, and other like purposes. Dated December 6th, 1881.
- „ 5,329. C. A. Barlow—a communication from Messieurs Wetter Brothers, of St. Gall, Switzerland, for improvements in the manufacture of machines in embroidery. Dated December, 6th, 1881.
- „ 5,335. W. R. Lake—a communication from C. Jamnig, of Vienna, for an improved apparatus for the manufacture of pillow lace. Dated December 6th, 1881.
- „ 5,337. R. Burgess, of Loftus-road, Ixbridge-road, Shepherd's Bush, London, Coach Ironmonger, for a new or improved clip or holder for facilitating the carrying of parcels tied with string. Dated December 6th, 1881.
- „ 5,343. G. Browning, of Glasgow, Engineer, for improvements in kilting, plaiting, or pleating machines. Dated December 7, 1881.
- „ 5,351. T. Rowan, of Coleshill-street, London, Engineer, for improvements in warming and ventilating, the improvements being partly applicable to other purposes. Dated December 7, 1881.
- „ 5,370. F. W. Parker, of Crouch-hill, London, Pattern Book Maker, for an improved mode of packing Swiss embroidery, laces, and other narrow trimmings for the market. Dated December 8, 1881.

Letters Patent have been issued for the following :—

- „ 2,146. W. R. Lake—a communication from D. H. Campbell, of Pawtucket, Rhode Island, United States, Machinist, for improvements in wax thread sewing machines. Dated May 17, 1881.
- „ 2,216. J. Imray—a communication from H. Buckolzer, of Berlin, for improvements in sewing machines. Dated May 20, 1881.
- „ 2,232. T. J. Brinsmead, of Wigmore-street, Cavendish-square, London, for improvements in the construction of the frames and tuning pins of pianofortes. Dated May 21, 1881.
- „ 2,246. G. Singer, of Coventry, for improvements in velocipedes. Dated May 23, 1881.
- „ 2,330. A. C. Fontaine, of Bennett-street, Fitzroy-square, London, for improvements in castors for furniture. Dated May 27, 1881.
- „ 2,366. F. H. F. Engel, a communication from Guhl and Harbeck, Sewing Machine Manufacturers, of Hamburg, Germany, for improvements in covers for sewing machines. Dated May 30, 1881.
- „ 2,469. C. Pieper—a communication from E. Brüncker, of Cologne-on-the-Rhine, Prussia, for improvements in lock-stitch sewing machines. Dated June 7, 1881.
- „ 2,565. E. J. Lewis, of Reading, Berkshire, Watchmaker, for improvements in trieycles and other velocipedes. Dated June 13, 1881.
- „ 2,568. F. E. A. Busche, of Schwelm, Westphalia, Germany, Manufacturer, for improvements in apparatus for regulating or governing the patterns of work to be produced in braiding and other like machines. Dated June 13, 1881.

- No. 2,624. W. T. Sugg, of Vine-street, Westminster, London, for improvements in gas cooking stoves. Dated June 16, 1881.
- „ 2,680. L. H. Pearce, of Hammersmith, London, for improvements in monocycles, or one-wheel velocipedes. Dated June 18, 1881.
- „ 2,690. E. P. Alexander—a communication from G. C. Desprin, of Pujols-de-Libourne, Gironde, France, for improvements in lamps for sewing machines and other machines of like character. Dated June 20, 1881.
- „ 2,722. W. R. Lake—a communication from G. W. Copeland, of Boston, Massachusetts, United States, for improvements in wax-thread sewing machines. Dated June 21, 1881.
- „ 3,016. G. L. O. Davidson, of Hanover-square, London, for improvements in velocipedes. Dated July 9, 1881.
- „ 3,150. D. Grove, of Berlin, Germany, for improvements in steam cooking apparatus for military and other purposes. Dated July 25, 1881.
- „ 3,406. J. F. Walters, of Queen's-road, Bayswater, London, for improvements in foot skates. Dated August 6, 1881.
- „ 3,760. H. Bland, of Luton, Bedfordshire, for improvements in sewing machines. Dated August 29, 1881.
- „ 3,826. E. L. and M. A. Dietz, of Oakland, California, United States, for improvements in dust pans. Dated September 2, 1881.
- „ 3,876. W. R. Lake—a communication from J. B. Anthony, of Providence, Rhode Island, United States, for improvements in sewing machines, chiefly designed for the manufacture of boots and shoes. Dated September 7, 1881.
- „ 4,215. W. H. McNary, of Brooklyn, United States, for improvements in knitting machinery, and in the production thereby of knitted fabrics of a novel character. Dated September 29, 1881.
- „ 4,363. H. J. Haddan—a communication from the Universal Knitting Machine Company of Ontario, Limited, of Toronto, Ontario, Canada, for improvements in knitting machines. Dated October 7, 1881.

PATENTS WHICH HAVE BECOME VOID :—

- No. 4,578. W. Brydon and J. W. Wilkinson, both of Morley, near Leeds, for improvements in scribbling and carding machinery. Dated November 12, 1878.
- „ 4,623. M. B. Rowland, of Upper Norwood, London, for an improved combined needle and thread holder. Dated November 14, 1878.
- „ 4,625. J. Bate, of Wolverhampton, for improvements in velocipedes, partly applicable to wheels for other purposes. Dated November 14, 1878.
- „ 4,657. J. M. and J. K. Starley, both of Coventry, for improvements in velocipedes. Dated November 16, 1878.
- „ 4,699. A. Melhado, of Ramsgate, for improvements in the mode of, and apparatus for, driving, sewing, and other machines by electro-magnetism. Dated November 19, 1878.
- „ 4,718. G. W. von Nawrocki—a communication from R. Tillmans, of Zeitz, Germany, for improvements in spring motors for working sewing machines or other small machines. Dated November 20, 1878.
- „ 4,725. A. M. Clark—a communication from J. B. Underwood, of Fayetteville, North Carolina, United States, and J. D. Smith, also of United States, for improved combined chair and treadle mechanism for operating sewing and other machines. Dated November 20, 1878.

- „ 4,797. W. L. and S. A. Ellis, of Dudley Hill, near Bradford, Spinners and Manufacturers, and J. Ellis, of Bradford, both in Yorkshire, for improvements in spinning and in apparatus connected therewith. Dated November 25, 1878.
- „ 4,809. S. Pitt—a communication from F. Curtis, of Boston, Massachusetts, United States, for improvements in methods of sewing and in sewing machines. Dated November 26, 1878.
- „ 3,953. J. Starley, of Coventry, Mechanician, for improvements in velocipedes, part of which improvements is applicable to other wheel vehicles. Dated November 17, 1874.
- „ 4,015. H. A. Bonneville—a communication from A. Steinway, of New York, United States, Manufacturer, for a new and useful attachment to pianofortes. Dated November 23, 1874.
- „ 4,052. H. E. Newton—a communication from T. S. Wiles and A. P. Adams, both of Albany, New York, United States, for improvements in machines for ironing articles of wearing apparel and fabrics. Dated November 25, 1874.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1d. each extra.

	s.	d.
„ 1,563. J. C. Garrood, velocipedes, &c.	0	6
„ 1,572. W. Brierly, combined comb and hair brush. ...	0	2
„ 1,583. J. H. Johnson, sewing machines.	1	0
„ 1,594. R. O. Rowland, bicycles &c.	0	2
„ 1,597. H. H. Doty, gas burners, &c.	0	6
„ 1,615. J. G. W. Wilson, sewing machines.	0	10
„ 1,617. F. Heyrich and F. Quenstedt, sewing machines. ...	0	6
„ 1,661. W. Hillman, velocipedes	0	6
„ 1,663. L. Silverman and J. R. Cuming, sewing machines. ...	0	6
„ 1,664. W. H. Bliss, tricycles, bicycles, &c.	0	2
„ 1,691. A. Wharton, tricycle.	0	2
„ 1,714. C. R. Stevens, apparatus for heating and cooking, &c.	0	8
„ 1,747. W. R. Lake, castor for chairs, tables &c.	0	2
„ 1,774. T. Townsend, driving gear of tricycles	0	2
„ 1,778. W. Mather, bleaching cotton and linen fibres, &c. ...	0	2
„ 1,799. G. Burt, lamps for bicycles &c.	0	6
„ 1,813. H. S. H. Shaw, brake and speed indicator for bicycles, &c.	0	2
„ 1,814. W. Morgan Brown, button-hole sewing machines. ...	1	0
„ 1,824. T. Banister and S. Lees, tricycles, &c.	0	2
„ 1,860. J. Harrington, tricycles, &c.	0	6
„ 1,871. A. G. Meeze and N. Salamon, velocipedes.	0	8
„ 1,886. A. Cooper, clothes washer &c.	0	2
„ 1,937. C. T. Jacoby and W. Jennings, apparatus for bleaching,	0	6
„ 1,949. E. A. Brydges, knitting machines.	0	2
„ 1,951. M. C. and T. J. Denne, sewing machines.	0	6
„ 2,065. G. W. von Nawrocki, pianofortes.	0	6
„ 3,263. H. J. Haddan, skate attachments.	0	4



DISSOLUTIONS OF PARTNERSHIPS.

Bullen Bros., Truro, ironmongers. June 30.
 Davies and Sandbrook, Pontypool, ironmongers. October 1. Debts by William Sandbrook.
 Entwistle and Kenyon, Acerington, machinists. November 10. Debts by James Kenyon.
 Gill and Northeott, Adwalton in Bradford, manufacturers of patent fire cleaning grate bars. November 24.
 Wright, C. F. and H. T., Boston, ironmongers. March 31.
 Kennard and Baillie, 13, King-street, Snow Hill, ironmongers. November 23. Debts by William Earnshaw Baillie.
 Warman, Laxon and Aslatt, Coventry, bicycle and tricycle manufacturers. November 24. As regards Francis Aslatt.

LIQUIDATION BY ARRANGEMENT.

Brazier, Donald Bernard, Temple-street, Wolverhampton, bicycle manufacturer. November 18.
 Gullett, Joseph Berry, Old Swan-street, Plymouth, ironmonger. November 25.
 Pitt, William, trading as Pitt Bros., Millbridge, Liversedge, Yorks, machine maker. November 17.
 Hetherington, John, Westgate-hill-terrace, Grainger-street, and Low Friar lane, all Newcastle, furnishing ironmonger and tinsmith. Dec 5.
 Saunderson, William Ashton, Victoria-street, Great Grimsby, ironmonger. December 14.
 Sutton, George William Heather, Market-place, Romsey, Hants, ironmonger. December 12.

BILLS OF SALE.

Ford, William Joseph, Astley Works, 81, Dudley-road, Wolverhampton, trading as W. Ford and Co., bicycle manufacturer; £100. In favour of Jonas Hart. Filed November 25.
 Greaves, James, 4, Kenealy-street, Camp-road, Leeds, sewing machine agent; £12, &c. In favour of Midland Loan Company. Filed November 21.
 Taylor, William Richard, trading as Taylor and Co., 26, Stapleton-road, Bristol, ironmonger; £25. In favour of Abraham Collins. Filed November 26.
 Parker, Samuel, 16, Clyde-street, Wallsend, sewing machine maker; £6 15s. &c. In favour of North Eastern Loan, &c., Co. Filed November 29.
 Richardson, Eugenie (executrix to her husband John Richardson), Sow Hill and Laigate, Beverley, Yorks, ironmonger; £130 7s. 3d. In favour of Henry A. Barnett and another. Filed November 28.
 Wootton, George, 4, Gwyn-street, Bedford, bicycle manufacturer; £14, &c. In favour of Northampton Advance Bank. Filed December 3.
 Bennett, Joseph, 8, Old King-street, Bristol, ironmonger, £120. In favour of Abraham Morse. Filed December 8.
 Spencelayh, Henry, 8, Railway-street, Chatham, Kent, ironmonger; £100, &c. In favour of Elizabeth Spencelayh. Filed Dec. 7.
 Bennett, Joseph, 7, Old King-street, Bristol, general ironmonger; £80, &c. In favour of General Advance Co. Filed Dec. 15.
 Weaver, Ralph Matthias, trading as the Wolverhampton Manufacturing Co., 60, Waterloo-road North, and Otley-street, Wolverhampton, bicycle, &c., maker; £70, &c. In favour of Marcus Gordon and others. Filed December 12.
 Whitehead, Francis, 8, Stanley-street, Blyth, Northumberland, ironmonger; £130. In favour of Mary Robinson. Filed Dec. 16.

A PIVOTED COUNTER SEAT, which is raised up against the counter or wall automatically as soon as the occupant leaves it, has been patented by Mr. Reuben J. Spalding, of Rosita, Col. The invention consists in a seat pivoted to the side of a counter or wall, and having a single or forked leg pivoted to its under side, the end of this leg sliding in a grooved, vertical guide of the counter, and being attached to a spring, the upper end of which is attached to the counter above the seat, so that the seat will be raised against the side of the counter or wall as soon as the occupant leaves the seat.

COUNTY COURT JUDGMENTS.

Hetherington, J., trading as Hetherington and Son, 4, Grainge-st., Newcastle, ironmonger; £21. October 21.
 Hopkinson, W., 2, Argyle-terrace, Rye-lane, sewing machine dealer; £14 2s. November 2.
 Robinson, Albert Kidd, Carnaby House, Fenton-street, Leeds, ironmonger; £13 14s. 4d. October 24.
 Buzzacott, John, Highbridge, Somerset, ironmonger; £10 10s. 3d. November 10.
 Davis, James, Marshfield, Gloucestershire, ironmonger; £10 7s. 1d. October 24.
 Palmer, John, trading as Palmer and Son, Victoria Works, Six Ways, Aston, Warwickshire, bicycle manufacturer; £11 8s. October 28.
 Powell, R. E., 25, North End, Croydon, ironmonger; £17 7s. 10d. November 5.
 Spencelayh, W. B., High-street, Chatham, ironmonger; £12 16s. 10d. November 10.
 Elshaw, Joseph, Commercial-street, Batley, Yorks, ironmonger; £18 5s. 4d. November 17.
 Methmann, James, Richmond, Yorks, ironmonger's assistant; £10 7s. November 21.
 Murray, George, Leath-lane, Holborn, ironmonger; £18 14s. 2d. November 17.
 Roe, James Shorn, Roschill House, Wandsworth, ironmonger; £17 5s. 6d. November 8.
 Walker, Emma, trading as E. Walker and Son, 7, Earl's-court-road, Kensington, ironmonger; £11 16s. 10d. November 15.
 Watts, T., London-street, Chertsey, Surrey, ironmonger; £10 9s. 10d. November 4.

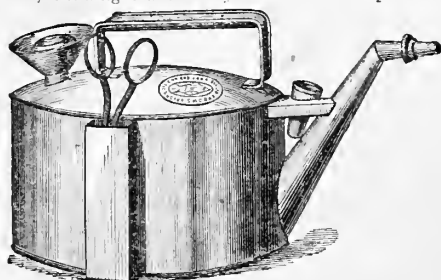
TRADE MARKS IN INDIA.—The Government of India have addressed a letter to the various Indian Chambers of Commerce, apprising them that the intention of passing an Indian Trades Marks Registration Act has been definitely abandoned. A draft bill had been drawn up and submitted to the various public bodies concerned, when difficulties and objections were pointed out on all sides.

NEWCASTLE COMMERCIAL TRAVELLERS' ASSOCIATION.—The annual dinner of the members and friends was held on the 23rd ult., in the Assembly rooms. Sir Matthew White Ridley, Bart., M.P., presided, and in the course of his remarks spoke of the advantages of such institutions. He said that they started with thirty-six members and an income of £39 ten years ago; now they had something like three hundred members, and a funded capital of £1,300 or £1,400. They had been able to help sick members during the last nine years most liberally. He concluded by expatiating on the necessity of thrift.

ELECTRIC LIGHTING.—On the 14th ult., Mr. W. H. Preece read a paper before the Society of Arts on "Electric Lighting at the Paris Exhibition." The hall was light up brilliantly by a number of Edison incandescent lamps, and the lecture was largely devoted to an exposition of the American inventor's achievements in the way of sub-dividing and measuring the light, so as to fit it for domestic use and enable it to be distributed from a common centre throughout a large town. A very ingenious meter was exhibited for keeping a record of the amount of electricity used. Mr. Preece expressed a decided preference for the incandescent over the arc system, and remarked that the electric lighting of the streets of London had been up to the present time a questionable success. Ten times as good a result would be possible if the light were properly distributed. In the discussion which followed, Sir Henry Tyler, M.P., Mr. Crompton, Mr. Shoolbred, and others thought that justice had scarcely been done to the Lane-Fox, Maxin, Swan, and other systems, and that the arc light could not be considered as superseded by the incandescent. Sir Frederick Bramwell, F.R.S., who presided, in closing the debate, spoke hopefully of the prospects of the extension of electricity as an agent of household illumination.

GROOM'S "OXFORD" OIL CAN AND LAMP FILLER.

The great objection urged against the ordinary lamp filler is that it itself requires such frequent refilling. The "Oxford" is made to remedy this, and will hold a considerable bulk of oil, while at the same time, it is a light and handy article. The cap to the spout

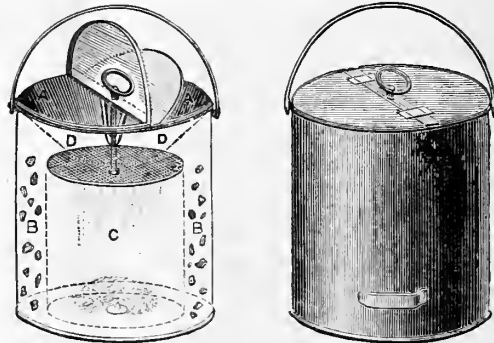


"Oxford" Oil Can, Lamp and Filler.

enables it to be carried about with safety, and the funnel at back allows of emptying lamps back into the filler. We give an illustration of the same, and for further particulars refer our readers to the manufacturers, Messrs. Groom and Co., Liquorpond-street, E.C.

SUTTON'S DOUBLE CENTRIFUGAL CINDER SIFTER.

This little invention, of which we give two illustrations, is introduced to the trade by Messrs. Stewart and Co., of 124, Newgate-street, E.C. It is a strongly-made article, and at the same time is light and portable. It can be carried from room to room, and the sifting operation performed by the servant without any



Centrifugal Cinder Sifter.

fear of the escape of dust. The following are the instructions for use:—Put the ashes into the hopper marked A, close the lid, and turn the handle smartly half round backwards and forwards. The cinders will at once fall into the outer pail marked B, and the ashes into the inner one marked C. Lift off the cover D by the handle, and the inner pail C, which is loose can then be removed with the ashes in it.

An Improved Clothes Rack has been patented by Mr. William J. McCallen, of Bradford, Pa. The object of the invention is to provide an improved device on which a large quantity of clothes can be suspended in a small space. The invention consists in a series of wires or lines, secured to blocks sliding on wires attached to the base of a frame, and passing over a roller to the ends of arms of this frame. These blocks are attached to ropes or cords passing over suitable pulleys, and also attached to a ratchet drum, whereby the lines or wires can be raised or lowered, as may be necessary.

TECHNICAL CARPENTRY CLASSES.—The court of the Drapers Company have voted a grant of twenty-five guineas to the Rev. H. Solly for the maintenance of the technical carpentry classes at Croydon, which were established about three ago by that gentleman by means of a previous grant from the same company. These classes, under the direction of Mr. H. Staynes, have been successful.

COMET BICYCLE AND TRICYCLE LAMP AND LUBRICATING OILS.

Messrs. R. S. Daville and Co., of 46, Wood-street, Liverpool, have recently placed in our hands a sample bottle of their "Comet" Bicycle and Tricycle Lamp Oil, upon which we are enabled to give a very favourable report.

The bottle referred to is one of 10 ounces or imperial half-pint capacity. It bears a dark blue label with white lettering and their registered "Comet" trade mark, which contrasts well with the ruby colour of the oil, whilst the cork bears a crimson star capsule. Their parcels are made up of 1 dozen bottles packed in partitioned cardboard boxes filled up with sawdust so as to obviate all reasonable risk of breakage.

A test of the oil in a "King of the Road Lamp" satisfies us that their claims to its high illuminating power, freedom from smoke, and steadiness of flame under oscillation are fully warranted. Indeed we were not a little surprised to see with what impunity the lamp might be subject to disturbing influences without deterioration of light. A full flame of 1 inch in breadth was maintained for four hours by one ounce of oil, so that for one shilling the consumer is supplied with a really magnificent, steady, reliable light for 40 hours. The manufacturers guarantee a standard quality shall be maintained and secure the public as well as themselves by having adopted a registered trade mark. As they hold testimonials from competent judges, and supply several of the leading Coventry manufacturers, we should say their efforts to meet a growing public requirement are being appreciated.

The same Firm put up a special oil of high lubricating qualities under a similar form for the use of bicyclists and tricyclists. This Bicycle and Tricycle Lubricating Oil appears to us to be well adapted to its particular purpose, it being as light as possible without sacrificing its efficiency or durability. In this point doubtless the experience of the manufacturers as dealers in sewing machine oils which have gained a wide reputation has served them to good advantage. Only those, who, like ourselves, have had experience in the management of machinery, can fully appreciate the real value and importance of a veritable *reliable* lubricating oil, and it is unquestionably a "penny wise and pound foolish" policy to use low priced inferior grades of oil at the cost of machinery. The facilities for deception in this trade are so great, and the consequences to consumers so dire that we are not surprised at the consideration of a possible saving in expenditure on this head is so frequently ignored and that the doors of many Manchester Mills are closed against the Oil Traveller, by public notice to the effect that there is no admittance for such. Query! Whose is the harder lot, the Oil Traveller or the Sewing machine Canvasser?

Abstracts of Specifications of Recent Patents.

BICYCLES, TRICYCLES, &c.

533. Bicycles, Tricycles, &c.: W. Mickelwright and A. G. Gladwyn, London. 6d. 5 Figs.—Is especially applicable to bicycles, &c., wherein the trailing wheel is supported in the forked extremity of a backbone, the object being to obviate vibration of the backbone, and consequently of the rider. To this end the fork extremity of the backbone carries vertical cases wherein are blocks in which the trailing wheel axle is mounted, and above and below said blocks within the cases coiled springs are arranged. Several arrangements are described. February 8, 1881.

1467. Apparatus for Registering the Distance Travelled by Bicycles and other Carriages: S. C. Straker, London. 2d.—A ratchet wheel is caused to move one tooth forward at every revolution of the wheel of the vehicle and to actuate a train of wheels, one of which has an index hand. April 4, 1881.

1563. Velocipedes, &c.: J. C. Garrod, Fakenham. 6d. 23 Figs.—Describes (1) a bicycle that can be driven both by hand and foot, and (2) a safety or "raked" bicycle. April 11, 1881.

1661. Velocipedes: W. Hillman, Coventry. 6d. 3 Figs.—Describes a new form of differential motion to enable both large wheels to act as driving wheels. April 14, 1881.

1664. Bicycles, Tricycles, &c.: W. H. Bliss, Forest-hill Kent. 2d.—Comprises a ratchet driving appliance. April 14, 1881.

1774. Driving Gear of Tricycles: T. Townsend, Coventry. 2d. The chain wheel of the tricycle contains a series of spur pinions and wheels so arranged that whilst they do not interfere with the forward movement of the machine, yet when it is required to turn round corners either wheel of the tricycle is free to turn quicker or slower according to whether the machine be turned to the right or the left. April 25, 1881.

1860. Tricycles, &c.: J. Harrington, London. 6d. 9 Figs.—The crank driving axle is immediately under the seat, and motion from said axle is communicated to the driving wheels by friction wheels which, instead of being in right lines, have their intermediate wheels on axles slightly out of such right lines, so obviating the necessity for the wheels pressing with great force towards each other. Relates also to means for throwing the friction wheels into and out of action. April 29, 1881.

1871. Velocipedes; A. G. Meeze, Redhill, and N. Salamon, London. 8d. 13 Figs.—Relates first to the means of transmitting the motion from the treadle which consists in arranging two discs, each having three stud pins upon which work three connecting rods, and second to a means of laterally contracting the velocipede to enable it to pass through a narrow doorway. April 30, 1881.

2049. Velocipede: G. M. E. Jones, Cambridge. 4d.—Two wheels 6 ft. or 8 ft. in diameter are connected by a shaft beneath which the driver sets, whilst working handles or cranks by hand. May 11, 1881.

2161. Driving Mechanism for Tricycles: A. Burdett, Coventry. 2d.—The motion is transmitted by friction wheels, one of which can be moved in or out of gear by a lever. Void, patentee having neglected to file final specification, May 16, 1881.

2273. Propulsion of vehicles: E. C. Healey, London. 2d.—Applies chiefly to manual power vehicles; the invention consists in so applying a cylinder and piston, that on descending a hill they act as a pump and force air into a receiver, and in ascending a hill the accumulated air causes the pump to act as an engine for the purpose of assisting in the propulsion of the vehicle. May 24, 1881.

SEWING AND KNITTING MACHINES.

1548. Sewing Machines: J. W. Ramsden, York. 1s. 20 Figs.—Refers to improvements on patents of J. Keats, 1085 of 1877, and S. and A. Keats, 4430 of 1880, for sewing machines in which one or two waxed threads are used by a hooked needle. The invention consists (1) in the means of imparting motion to the whirl, and (2) improvements in the rotary shuttle machine. This specification is lengthy and profusely illustrated, but an explanation of the details of the invention is beyond the limits of an abridgment. April 8, 1881.

1615. Sewing Machines: J. G. Wilson, London. (A. M. Leslie, Chicago and the Teller Manufacturing Company, Cleveland, U.S.A.) 10d. 30 Figs.—Is to embody the rotary shuttle principle in a sewing machine with the qualities of noiselessness, light running, perfection of stitch, and ease of manipulation. The specification contains ten pages of description, three sheets of drawings, and twenty claims. April 13, 1881.

1617.* Sewing Machines: F. Heyrich and F. Quenstedt, Berlin (Actiengesellschaft vorm Trister und Rossmann, Berlin. 6d. 6 Figs.—Is a special device for automatically disengaging the bobbin when it is reeled, and comprises a special arrangement of "Carter's valve" and guide frame for facilitating the introduction of the thread. April 13, 1881.

2315. Knitting Machines: B. F. Shaw, London. 2d.—The improvements are applicable to ordinary web-holding knitting machines, and consist in using a pointed web-holder, and adjusting the holder bed so as to produce coarser or finer work. May 26, 1881.

THE
LIGHT-RUNNING
STANDARD
Has No Equal.



NONE SO SIMPLE,
NONE SO DURABLE,
NONE SO RELIABLE.

Examine it Before Purchasing any other.

RENNICK, KEMSLEY & CO.,
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WHEATLEY BROTHERS

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CUTLERY.



SKATES. TOOLS.

Sole Manufacturers of ORTH'S Improved
REGISTERED PEELER.



The handiest and cheapest in the market. Retail at 6d., and nickel-plated at 1s. each.

Sold by Cutlers and Ironmongers, Wholesale (ONLY) direct from Makers, or from London and Birmingham Merchants and Shippers.

TO INVENTORS. GENERAL PATENT OFFICE
ESTABLISHED 1830.

G. F. REDFERN,

(Successor to L. De Fontainemoreau & Co.),

4, SOUTH STREET, FINSBURY, LONDON;

ALSO AT

PARIS AND BRUSSELS.

Provisional Protection, £7; French Patent, £7; Belgian, £8; German, £10 10s.; United States, £17 10s. Designs and Trade Marks Registered. Circular gratis on application.

JOURNAL OF DOMESTIC APPLIANCES

AND

Sewing Machine Gazette.

THERE is a general, and we think a well founded, expectation that the trade of 1882 will be a great improvement upon that of either 1880 or 1881. Many of the most important industries of the country, notably those of iron and cotton, are in a more flourishing state than has been the case for a long time, and the only great industry that can be said to be in a state of stagnation is that of agriculture, which is, without doubt, in a bad way. Wages are low, consequently, manufacturers are able to compete successfully with the Continent and America, and to get a fair margin of profit upon their productions. All this means that the large money spending classes of the country—the manufacturers, the mill owners, the colliery proprietors, &c.—are able to spare more money for family and personal expenditure than they have done for a long time. The railway traffic returns of the last few months both for goods and passengers are also considerably in excess of the corresponding period of last year or the year before, and this may be con-

sidered as one of the surest indications of returning prosperity. Another important consideration is, that the long period of commercial stagnation through which we have been passing has served to weed out from the ranks a large number of impecunious and insolvent trades, consequently credit is in a much healthier state than it has been, and the risk of bad debts will be correspondingly less. We think, therefore, we may justly look forward to a greatly improved condition of commercial affairs in 1882. There are, moreover, other considerations which more directly affect the trades represented by this journal, as, for example, the wide amount of interest displayed on all hands in everything tending to increase domestic comfort and lighten domestic labour. Exhibitions having these objects in view have been held during the past year both in London and the provinces, and in all cases have excited a large amount of attention. Prominent among these may be noticed the Health Congress and Domestic and Scientific Exhibition which was held last month in the Royal Pavilion, Brighton, where a series of most interesting lectures were delivered on Sanitary and kindred subjects by Dr. B. W. Richardson, and other gentlemen who have devoted their attention to these very important matters.

We therefore counsel our readers to be wide awake in 1882, and to keep their eyes open to every novelty that will tend to make healthy homes, and dispense with all needless domestic drudgery. There will be more trade than ever done in all these classes of goods. Sewing and washing machines, and all branches of domestic comfort are certain to be largely in demand, and in the belief that our predictions will be fully borne out by results, we wish all our friends a very prosperous and Happy New Year.

A NOVEL invention, which has been appropriately named "The Milkman's Dread," has just been invented in Germany by a Mr. Sabatier. It consists of a slab of hard india-rubber properly turned, on which a few drops of milk are placed. The glass plate is then dropped on and whichever tint on the glass the milk most resembles the colour thus produced indicates the quality of the milk. The various shades are labelled and the instrument therefore simple to use. We understand that it is to be produced at a very moderate cost, so that we may therefore shortly expect to find many housewives testing, to the dismay of Mr. Simpson, the quality of their working portion, and discovering that the pump has more part in its supply than the cow.

OUR ILLUSTRATED SUPPLEMENTS.

MESSRS. JOHN WRIGHT AND CO.'S GAS STOVES.

One of this month's supplements illustrates a few novelties in gas cooking and heating apparatus, manufactured by Messrs. John Wright and Co., Essex Works, Broad-street, Birmingham. For a full description of these articles we refer our readers to our report of the Brighton Exhibition, where the same were exhibited. We may mention that this firm obtained at that Exhibition a silver medal for the excellence of their gas stoves.

MESSRS. W. SUMMERSCALES AND SON'S WASHING AND WRINGING MACHINES.

It would be impossible to speak to highly of the excellence of Messrs. Summerscales' manufactures. Their machines are all made with great care from the very best materials, and their action is simple and effective. They are strong and durable and will stand what many machines will not—*hard wear*.

BRIGHTON EXHIBITION AWARDS.

The following are the awards so far as they concern the industries represented by this Journal:—*Silver Medals*.—Mr. W. Hamilton, invalid couches; Chorlton and Dugdale, "Excelsior" spring mattress and bed; the Singer Company, sewing machines; E. G. Bedford, "Enthermie" gas-heating stoves and general exhibits; H. Moore, Jun., the "Humber" bicycle and tricycle, &c.; the Wilson Engineering Company (Limited), ranges; Reed and Sons, Porter-Clark apparatus for softening water; C. Drake and Co., patent concrete baths, &c.; Mr. P. H. Bird, system of ventilation; W. Lyon, patent disinfectant; Mr. P. A. Maignen, "Filtre Rapide"; the Water Reform Company (Limited), apparatus for softening and purifying water; E. Moritz, water-spray ventilator; Birmingham Sanitary Association, Pott's patent trap; Doulton and Co., the "Flush-out" closet, &c.; G. Jennings, waste preventers, ball-trap, &c.; J. Wright and Co., gas-stoves; Ihlee and Horne, illuminous paint; the Brush Electric Light Company, electric light. *Bronze Medals*.—The Wheeler and Wilson Company, sewing machines; Chemical Fire Engine Company, fire engine; the Brighton Bicycle and Tricycle Company, general excellence of exhibits; E. Geraut and Co., soda-water apparatus; Mr. Harper Twelvetees, washing machines; Mr. George Kent, knife cleaners and domestic machinery; Beeman and Roberts, type-writer; J. E. H. Andrews and Co., the "Bisschop" gas engine; Crossley Brothers, the "Otto" gas engine; Thomas Bradford and Co., washing machines, &c.; Barford and Perkins, steam cooking apparatus; Davis and Co., gas stoves, &c.; Squintani and Co., the "Model" printing press; W. Sugg and Co. (Limited), gas burners, &c.; Doulton and Co., tile stoves; A. Hindmarsh and Co., shanks, baths and lavatories, kitcheners, &c.; C. G. Reed and Sons, "Crown Jewel" stove and "Eagle" range; Hayward Brothers and Eckstein, semi prismatic pavement lights; S. and E. Ransome and Co., solution for damp walls, stone filters &c. Baumer Brothers and Co., system of ventilation; R. Boyle and Son, self-acting ventilators; A. Emanuel and Son, the "Bellows" regulator and sanitary goods; Hayward, Tyler and Co., the "Full-flush" valveless closets, &c.; W. T. Waller, cooking and heating stoves; C. F. Underhay, sanitary goods, valves, &c.; G. Osborne, high-pressure stop-tap, plumbers' ware, &c.; T. J. Constantine, the "Treasure" range. *Certificates of Merit*.—Mr. T. Heron, "Duplex" gas burner; Coventry Machinist Company, bicycles and tricycles; F. and C. Hancock, butter washing machines; Mr. C. Green, gas stoves, &c.; Packham and Son, kitcheners, &c.; Kaye and Co., improved locks and latches; R. Adams, safety window and other fittings; A. Bedborough, window for ventilating and safe cleaning; Gilmore and Clark, self-acting ventilators; Kite and Co., ventilators and chimney caps; Kennedy's Patent Water Meter Company, water meter.

AMERICAN WALNUT.—A U.S. contemporary says the daily papers are terribly solicitous about the lumber supply. "One would think that we shall presently be a furnitureless people, and, like Orientals, be reduced to squat upon rugs, which shall serve all the requirements of bed and board. Happily, there is not much cause for this alarm. To speak within bounds, there is yet remaining some little timber in the United States fit for converting into furniture, nor are we likely to see the end of it in our day and generation. All this talk has arisen from the scarcity of black walnut, which, during the past season has been difficult to get and high-priced. But it does not follow by any means that 'the whole supply in the United States has become entirely inadequate to the demand.' Such a statement is, indeed, very far from the truth for the scarcity is caused by the inadequate facilities for getting the wood out. Walnut timber has almost disappeared from Ohio, Indiana, and Michigan, formerly the chief sources of supply, but there are yet standing in Missouri, Arkansas, Kentucky, Tennessee, Alabama and other states, vast tracts of walnut timber, of tenfold greater extent than those already exhausted. But these tracts are as yet inaccessible, and comparatively small quantities of lumber are produced from them. Such non-development of new sources of supply, coupled with the comparative exhaustion of the old, is the immediate cause of the scarcity and the high price.

THE EXHIBITION OF SMOKE PREVENTING APPLIANCES.

(BY OUR OWN REPORTER.)

ON the 30th of November a large and distinguished audience assembled in the Albert Hall, to witness the opening of an exhibition of modern appliances wherewith to battle with London's great enemy—smoke. The Lord Mayor, the Marquis of Lorne, Mr. Shaw Lefevre, M.P., and Sir Henry Thompson, were present at the opening ceremony and made eloquent speeches all of course on the one subject smoke. The Marquis of Lorne expressed a belief that one day he might see roses blooming in Kensington-gardens if the public would only avail themselves of the many appliances there exhibited. I cannot of course believe that the smoke exhibition will produce any such great result as that, but it is a step in the right direction although a small one. Many of the exhibits were sensible practical inventions, while on the other hand a few were of such a nature that their use would make the remedy worse than the disease. Such as they are, I shall endeavour to describe them correctly, and commence with the exhibit of—

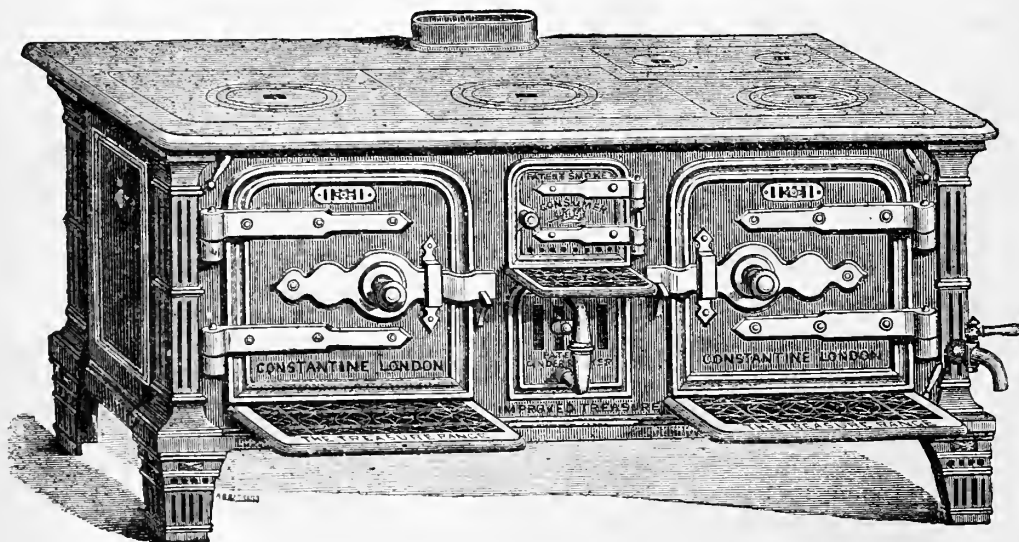
from hearth to top of grate. The front is advanced into the room. The fire has a lining to protect body, while it also prevents the latter from becoming overheated. Cold air enters through the lower part of perforated front, and when warmed is emitted through the upper part of arch. This grate can be adapted for a supply of fresh external air and for supplying warm air to other rooms from the one fire; a valve can be inserted in the cold-air conduit for regulation. To facilitate setting the grate and to provide access to warming-chamber, the front is made to come off by unscrewing.

MESSRS. BILLING & CO., 7, New Oxford-street, W.

Several novelties in gas heating apparatus are exhibited. There are also shown brass sconces, finger plates, trays, and other metallic articles.

MESSRS. BROWNE & CO., 186, Piccadilly, W.

The "Piccadilly" gas fire, the "Sanitary" gas stove, and other gas heating and cooking stoves were exhibited at this stand.



This "Treasure" Smoke Consuming Range.

MESSRS. BARNARD, BISHOP & BARNARD, Norwich.

This firm exhibit a number of slow combustion stoves. A combustion chamber is formed by the back and sides of stove, and by the patent fire brick baffle, into which hot air is continuously discharged from the air chamber at the back of the stove. The hot air mixing with the products of combustion turns them into gas, which must ascend in front of the baffle, presenting all its heat to the room. The fire brick baffle is movable, so that at any time it can be replaced or removed for the purpose of sweeping the chimney.

MESSRS. A. BOYD & SON, 105, New Bond-street, London.

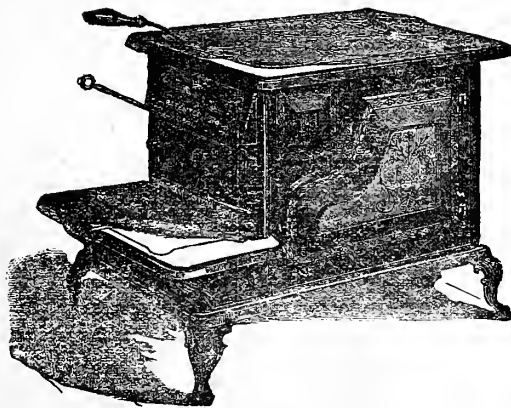
An improved ventilating warm air grate for domestic use is shown by this firm, the peculiarity being that (with an ordinary fire) the heating surface is doubled. The iron body is made zigzag

MR. T. J. CONSTANTINE, 61, Fleet-street, London, E.C.

The "Treasure" smoke consuming cooking ranges were shown by this exhibitor. The fire or furnace door is divided into sections, so that the air has to take a circuitous course round the chambers, and by the time it reaches the fire the hot air arising therefrom consumes the smoke. The fire-pot or fire-basket has a number of air tubes surrounding it producing the same result as that described in respect of the fire-door. An arrangement of gills, formed on the sides and bottom of the ovens, assists in conducting the heat to the ovens. The arrangement of the ashes pan is also a novelty, formed in two parts, one the receiver for the ashes and the lower part a receiver for the dust. This allows the ashes to be re-burnt, resulting in great economy.

MESSRS. CHARLES CHURCHILL & CO., 28, Wilson-street, Finsbury, E.C.

This firm exhibit the Greene soft coal cooking stove. This new stove consumes all varieties of bituminous coal, without forming



The Green Cooking Stove.

clinker, making soot, creating gas or nuisance of any kind, and is especially adapted to burn slack coal or culm, wood, corn, or corn cobs.

MR. R. W. CROSTHWAITE, 24, Upper Thames-street, E.C.

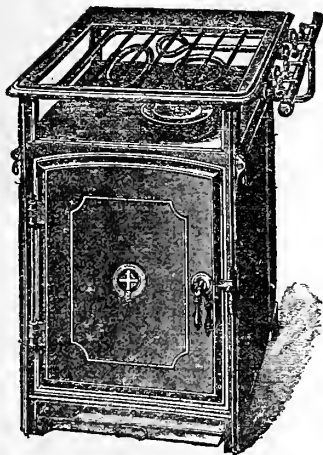
Several patent cooking stoves partly smoke consuming were shown by this exhibitor. They are all made with the express purpose of economising fuel.

MR. G. J. COX, Gas Works, Maidstone.

Mr. Cox exhibits an excellent gas cooking apparatus, a warming stove, and a water heater. In these various apparatus the air used in supporting combustion of the gas is heated first. It is caused to traverse chambers formed in sides of apparatus, wherein it takes up waste heat radiating from the stoves.

MESSRS. H. & C. DAVIS & CO., 200, Camberwell-road, London, S.E.

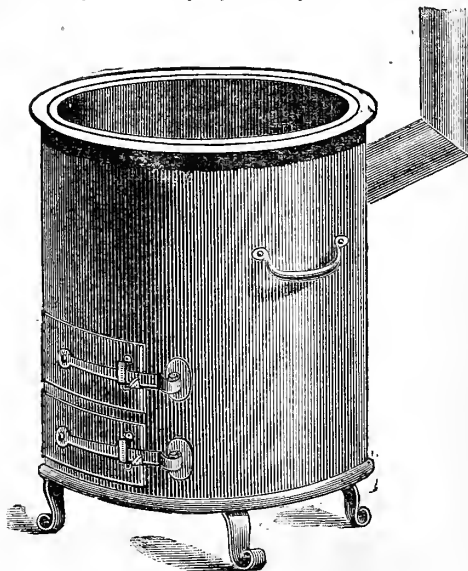
This firm of gas engineers make a good display of gas stoves for heating and cooking purposes. Their No. 20R ventilated gas roaster is 4 ft. wide, 2 ft. 9 in. deep, 6 ft. 10 in. high, lined with white enamelled wrought iron plates, double cased, and coated with



The "Metropolitan" Gas Kitchener.

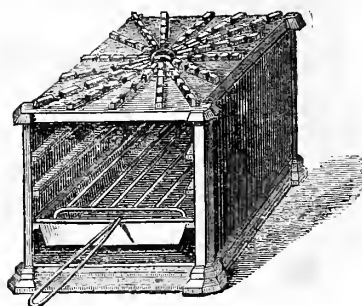
patent non-conductor; fitted with gridirons, hooks, &c., and triple atmospheric gas apparatus, with separate cocks. It will roast 3½ cwt. of meat and pastry at a cost of 6d. for gas. No. 212, a venti-

lated gas kitchener, is 5 ft. long, 3 ft. 6 in. high, 3 ft. deep, with two compartments for roasting and baking, and hot plate, with nine atmospheric burners for boiling, stewing, &c. I also noticed an excellent grill for hotel use, and the "Thermo Hygienic" heating gas stove, specially adapted for offices. While speaking of Messrs. Davis's hotel grillers, I may say that they are all double-cased, and



Gas Furnace.

entirely surrounded with the most effective non-conductor known; they are also of great strength. Messrs. Davis also exhibit double steam cooking apparatus, fitted with perforated galvanized iron trays. Each compartment will cook 1 cwt. meat, or corresponding quantity of vegetables. Messrs. Davis also exhibit an improved gas furnace of which we give an illustration.



The "Eclipse" Griller.

MESSRS. DEANE & CO., 46, King William-street, E.C.

Crane's patent registered grate for burning anthracite is shown by this firm. The space each side of the fire, usually filled up with brickwork, is occupied by side flues which communicate with the bottom of the stove. A register door is fitted in the usual manner. When this register door is closed, a strong draught is created, and the products of combustion are conveyed down the side flues and directly under the fire, a greater part being again drawn through the fire and consumed, and the remainder carried into the chimney through an opening below the level of the fire. When the fire is well alight, the register door may be opened, and the anthracite is then burned as in an ordinary grate. The ashpit is closed, always showing a clean hearth.

Messrs. Deane exhibit Fletcher's patent gas cooking and heating apparatus, instantaneous water heaters, and general lavatory appliances.

MR. JAMES DUNNACHIE, Glenboig, near Cambridge.

The Star heating stove is shown by this exhibitor. It is made of fine clay with iron exterior and is suitable for coal, gas, oil, or wood.

MESSRS. J. F. FARWAY & CO., 36, Queen-street, London.

A slow combustion calorifier to burn andraccite coal or coke is shown by this firm. This stove also introduces a stream of fresh air (warmed), and will burn for twelve hours or longer, without attention, at a cost of one penny. The fuel chamber is lined with fire-clay, which may be renewed without removing the stove, at a very small cost.

MESSRS. GEO. HALLER & CO., 50, Lime-street, E.C.

Kohlhofer's patent hot air gas stoves are shown by this exhibitor. In these stoves the products of combustion are at the outset divided and carried through a number of pipes, which finally unite into a common flue, which is carried outside. The pipes are placed within a casing with openings on top and bottom. The cold air, entering below, comes out heated on top. The air to be heated may be taken from outside, and as the products of combustion are not retained in the room, only a pure warm air is produced.

MESSRS. WM. HARVIE & CO., 222, Broomielaw, Glasgow.

This firm show Dr. Adams's gas stoves, which are designed for dwelling-rooms, libraries, offices, warehouses, halls, schools, churches, wine cellars, harness rooms, conservatories, Turkish baths, drying closets for confectioners, for laundries, for disinfecting clothing in public institutions, for various drying processes in chemical manufactures, &c., &c. Exclusive of heat distributed by radiation, and by contact of air from the outer surface, there is delivered continuously from the vomitories of the stove a large current of pure, warm air, the quantity and temperature of which is under regulation. For dwelling apartments, an invalid's room, &c., the air may be delivered at any desired temperature, say 100 deg. Fahr., or upwards, may be rendered extra dry, or may be impregnated with moisture. For conservatories, the air may in like manner be diffused in a dry condition, or moist as a warm dew. For drying processes or other special purposes, the warmed air may be delivered of the mildest heat, up to 300 or 400 deg. Fahr., as may be desired. The action of each stove may be modified and controlled at pleasure. While in ordinary action it delivers a certain average quantity of air at a certain temperature; but by adjusting valves or screens which control the air inlets and outlets, the heated air may be delivered in lesser quantity but of much higher temperature. By a farther adjustment, the current of heated air may be altogether shut off, and the stove converted into an ordinary radiating stove, but of exceptional power. The furnace chambers which heat the stoves are of various sizes, corresponding in power, and each is designed to burn effectively a given quantity of gas, say 8 or 16 cubic feet per hour, as the case may be. The gas supply may be regulated by the addition of a cheap gas volume regulator, so as not to exceed the maximum quantity which ensures full efficiency of the stove; and the gas supply, together with the heating force of the stove, may be lowered at pleasure. Dr. Adams's stoves are all provided with flues. The stove consists of four casings (two outer and two inner), and the space between the outer and inner casings form a tortuous flue, by which the burnt products slowly find their way to the outlet. The pure air which is to be heated enters the stove in two currents, each of which has its separate course. The first enters by the pipe at the back of the stove to the heating chamber at base of stove. From thence the air descends between the outer casings, and gains additional heat by contact therewith. The second inlet is at the top of the stove, where the cool air enters and descends by the central tube or casing, till, becoming heated at the bottom, this current is likewise reversed and ascends between the two inner casings. The two currents of warmed air mingle at the top, and are discharged by the lateral openings. Another pipe gives separate supply of air to the furnace chamber. The action of each stove is proportional to the quality and quantity of gas employed, and also varies with the dryness of the air and the initial temperature.

MR. THOMAS IVORY, 23, Walker-street, Edinburgh.

Mr Ivory shows some improved appliances for heating and cooking by radiation from a surface heated by gas.

MESSRS. KITE & CO., 117, Charlton-street, London.

Messrs. Kite exhibited some smoke preventing chimney caps for dwelling houses and for public buildings.

MESSRS. S. LEONI & CO., 66, St. Paul-street, New North-road, N.

A large collection of gas kitcheners, gas fires, ventilating stoves, grills and other gas cooking apparatus formed the exhibit of this firm.

MESSRS. MART & BRADLEY, 16, York-street, London-road, Southwark.

The "Thermostatic" gas roaster or cooking stove and the "Instantan" gas bath heater were shown at this stand.

MESSRS. MICHEL & CO., 51 late 471, New Oxford-street, W.C.

Some excellent has heating and cooking stoves were shown at this stand. They are said to be smokeless.

MESSRS. WILLIAM POORE & CO., 153, Cheapside, E.C.

This firm showed gas stoves, and other appliances for producing heat without smoke.

MESSRS. C. PORTWAY & SON, Halstead, Essex.

The "Tortoise" slow-combustion heating and laundry stoves are shown by this exhibitor. Being lined throughout with Stourbridge ware, and having a tile hearth in lieu of an iron bottom grate, the fuel does not come in contact with iron at any stage of combustion, but burns freely in earthen cylinder without offence to the sense of smell, or in any way rendering the air impure or impaired in quality. It is, indeed, a clay stove with a durable outer casing of



The "Tortoise."

iron, and will be as serviceable after thirty years' wear as ever, provided it has new tile lining.

THE SUNLIGHT STOVE AND UTENSILS COMPANY,
19, Blackfriars-street, Manchester.

The "Prince's" heat diffuser is shown by this exhibitor. The construction compels a large volume of cold air to pass through the heating-chamber.

MESSRS. STRODE & CO., 48, Osborn-street, W.

This exhibit consists of Schönheyder's patent sanitary stove, for heating, lighting, and ventilating gas fires, gas stoves, and gas lighting apparatus.

MESSRS. JAMES STOTT & CO., Marsland Street, Oldham.

This firm show the Stott patent self-acting gas valve, or governor, for regulating the pressure of gas from the main to the burner.

MESSRS. WM. SUGG & CO., LIMITED, 1, Grand Hotel-buildings, Charing Cross, W.

Messrs. Sugg show several kinds of novel gas fires and other gas heating apparatus; also ventilating apparatus, and improved gas burners.

THE SILBER LIGHT COMPANY, 49, Whitecross-street, E.C. Some excellent lamps and stoves for burning paraffin, petroleum or kerosene are shown by this firm.

Some few years ago the Silber Light Company, brought before the notice of the public a new tubular burner, which has gained much approbation from all experts who tested it. This invention they have still further improved and they now place before the lighting world the same old friend, slightly altered in appearance and even more serviceable than heretofore. As will be seen by our illustration they have reduced the length of the burner and the

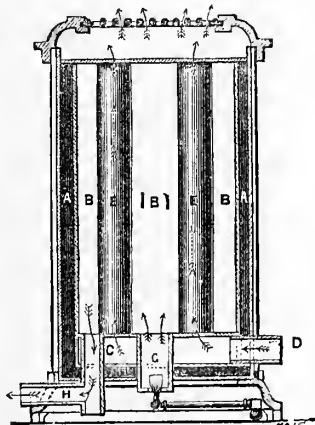


"The Silber Tubulated Burner."

amount of brass under the burner is also considerably diminished, and all that can be now seen is the brass in the tube conveying the gas to the burner. To this invention the Silber Company have fitted an automatic governor which is placed under the burner and occupies a very small space. This governor is quite automatic, and will steady the flame to a uniform consumption of gas as determined by the consumer, the sizes being made to control the gas to 5, 6, or 7 feet per hour as may be required.

MESSRS. J. C. STARK & CO., Torbay Iron Works, Torquay.

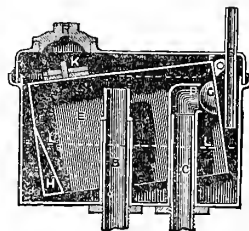
This firm of gas engineers make a good exhibit of their manufactures. One of their chief novelties is Cox's patent pure air



"Cox's Ventilating Stove."

ventilating stove. These stoves are heated by gas, and designed

with the view, in addition to effectually warming an apartment, to keep it perfectly pure, no matter how crowded it may be, and, at the same time, to act as a preventive of draughts. For this purpose all the heat is imprisoned in body of stove, the outer sides of which are packed with a non-conductor, to prevent loss of heat externally. Through the stove from bottom to top run tubes, drawing fresh air (brought by a large tube) direct from out-doors, or some pure source, and discharging it into the room at any temperature desired up to 300 degrees. Being lighter than the colder air of the room it



"Cox's Gas Regulator."

at once rises to the ceiling, gradually pressing down and driving out at chimney, windows, and doors the air that has been breathed, or otherwise vitiated. Any admixture of the products of combustion with the air so brought in is, from the construction of the stove, impossible. There is an arrangement for carrying off such products to a chimney, and it is of course wise to do so where practicable; but, whether or not this is done, perfect freedom from smell is guaranteed. The following is the description of this stove:—A, represents outer walls of stove, packed with a non-conductor to pre-



Ventilating and Radiating Stove.

vent loss of heat. B, hot air chamber, in which products of combustion are stored and re-heated to a very high temperature. C, air chamber. D, pipe for supplying pure air to chamber C; this may be brought either through the wall, the floor, or ceiling, the latter is preferable, as it has the advantage in summer of converting the stove into a most effectual ventilator, ensuring a good supply of fresh air in the apartment and preventing draught. E, tubes which pass through intensely heated chamber B, conveying pure air from chamber C to top of stove, and discharging it through perforated cover. The air is heated by simply passing through these pipes, and the room may be kept at any temperature required without attention. G, furnace in which burners burn, and which connects upper and lower bottoms. H, outlet pipe for products of

combustion. K, one or more ordinary fish-tail burners. Another stove which calls for special notice is their ventilating and radiating tile stove, with reflector. This handsome stove, of which I give an illustration, would be a great ornament to a small hall. Cox's gas regulator is also exhibited by this firm. It ensures a steady light at all times, prevents waste, the blacking of ceilings and pictures, poisoning of the air, &c., and reduces gas bills from 25 to 50 per cent.

MESSRS. G. E. WEBSTER & CO., Market-street, Nottingham.

A collection of gas stoves and other lighting and heating apparatus is shown by this firm. The chief feature of Messrs. Webster's heating stove is that the gas, after having been burnt, passes up into the top of the stove, thence downwards through the supporting columns; it thus parts with the heat it contains, and is itself condensed.

MR. CHARLES WILSON, 132, Woodhouse-lane, Leeds.

Gas cooking and heating stoves, gas boilers and baths are shown by this firm. The body of stoves consists of coloured and glazed terra-cotta, called Leeds ware; the fire fitted in the stoves is made of two layers of strong woven wire, mixed with platinum wire; the back of the fire is a slab of terra-cotta, and between terra-cotta and wire the atmospheric gas burner is placed. In a short time after lighting the wire becomes red-hot, and presents a bright and lively appearance. In fifteen minutes the terra-cotta slab also becomes red-hot, and throws out a good heat. The fire consumes 10 ft. to 20 ft. of gas per hour, according to size.

MESSRS. JOHN WRIGHT & CO., Essex-works, Birmingham.

This large and well-known firm of gas stove manufacturers showed a collection of the excellent stoves for which they are celebrated. They are all novel in design and well finished and reflect very creditably on the firm who made them.

There were also exhibited a number of very modern smoke-consuming appliances for furnaces, but as they are beyond the scope of this journal I have not described any of them.

PATENT LAW REFORM.

The subject of amending the patent laws is very much akin to bankruptcy in respect to the great divergence of opinion that exists among those familiar with the operation of these laws and the difficulty there appears to be in getting due consideration by Parliament of measures intended to remove the present anomalies, and otherwise to amend the practice and procedure. For several years past scarcely a Session has elapsed without the introduction of one or more Patent Law Bills, either at the instance of the responsible Government of the day or of private members, and yet legislation has not been effected. The last phase of the question has been the preparation of the Society of Arts of a Bill which appears to have met with a considerable amount of support from other public bodies. It has not yet been introduced into Parliament, but with the view of formulating public opinion on the subject, and of eliciting the criticism of experts, it has been printed and circulated somewhat extensively. The principal provisions of the Bill provide for the removal of the present Commissioners of Patents, and the appointment of three commissioners having special knowledge of the questions likely to arise. The method of application for a patent is proposed to be as follows:—The applicant would file a provisional specification, which would be referred to examiners appointed for the purpose. They would see that the invention was proper subject-matter for a patent; that the specification fairly described the invention, and that it was generally intelligible and properly drawn. They would not inquire into novelty or utility. They would report, and their report would be shown to the applicant before being seen by the commissioners. The applicant would then have an opportunity of conferring with the examiners as to any required alterations. Provisional protection would be granted immediately on receipt of the application, and would last for nine months. Before the end of that time the applicant would be required to file a complete specification, fully describing his invention. This would be referred to the examiners, and treated in

the same manner as the provisional specification. The applicant would be enabled to amend his specification in accordance with the recommendation of the examiners, and, on his doing so, a patent would be granted. If the examiners reported that the application was in respect of matters which could not properly be made the subject of a patent, and if the applicant still persisted, a patent would still be granted, but the objections of the examiners would be endorsed upon the specification. It is proposed that the duration of a patent should be for seventeen years, not fourteen as at present, the duration being, as now, contingent upon the payment of fees, which, under the Bill, would be about one half of the existing scale. Power is also sought to restrict the grounds of opposition to the granting letters patent, and to compel patentees to grant licenses in cases where it can be clearly shown that the invention is not being worked in such a way as to supply the reasonable wants of the public. It is proposed to grant patents to foreigners or persons residing abroad on precisely the same terms as those on which they are granted to British subjects in the United Kingdom. This would get rid of many cases of injustice arising from the present system of granting patents in respect of communication from abroad, wherein patents are sometimes granted to persons having no moral right to them, but who simply anticipated the original inventors in obtaining an English patent. A further important amendment is contained in the Bill, and it has reference to the mode of trial in patent cases. It proposes that such cases should be tried, in the first instance, before one of the commissioners, and an appeal would afterwards lie to the whole body. The commissioners would have power to call in assessors, and would have such other powers as would enable them to try the cases fully. It is hoped that this would greatly simplify the patent litigation, and would prevent the enormous expense which is now incurred by having to bring complicated questions of law and fact before a jury who are probably ignorant of the scientific or mechanical considerations involved. It may be noted that one great source of expense is the preparation of models which are only necessary to illustrate mechanical questions to persons unaccustomed to deal with such questions. For experts in such matters, drawings would be sufficient; indeed, an engineer would generally much prefer proper drawings to any model of a machine.

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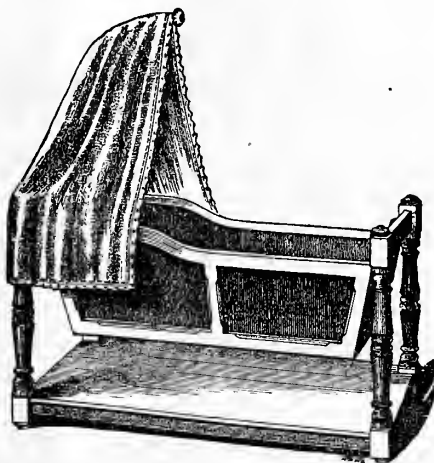
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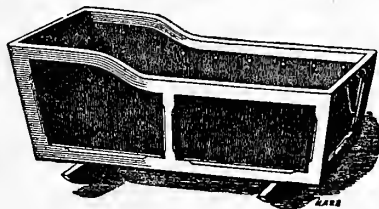


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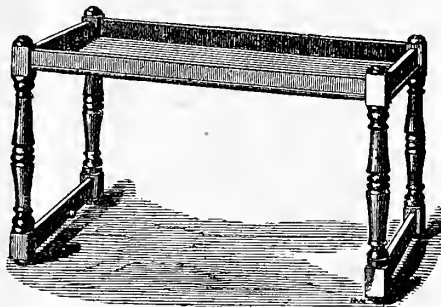
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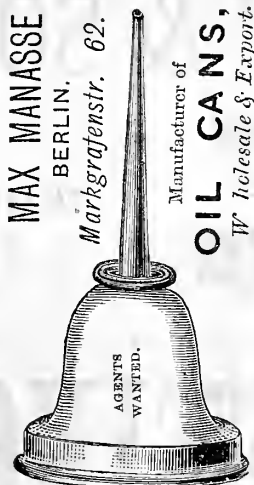
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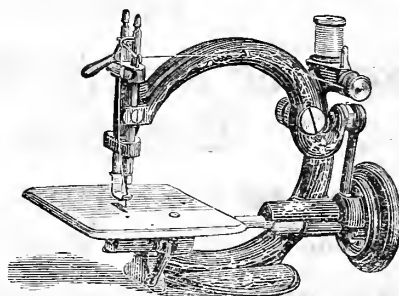


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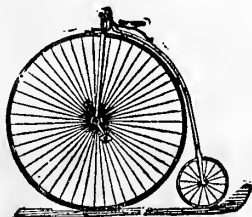


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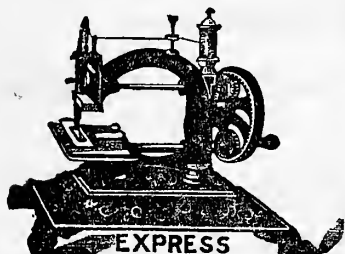


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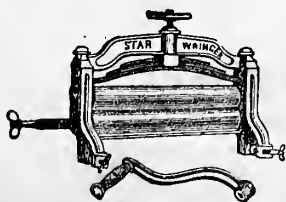
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Given under my Hand, this 14th day of August, 1837, in the first year of her Majesty's Reign
H. SUTHERLAND, *Mistress of the Robes.*

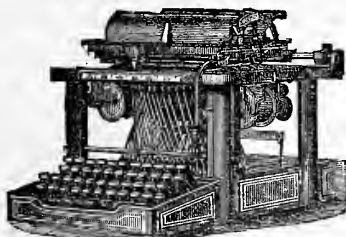
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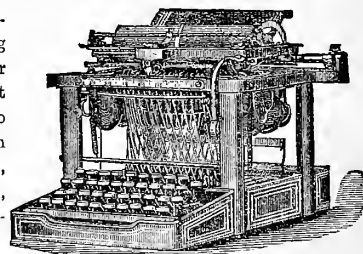
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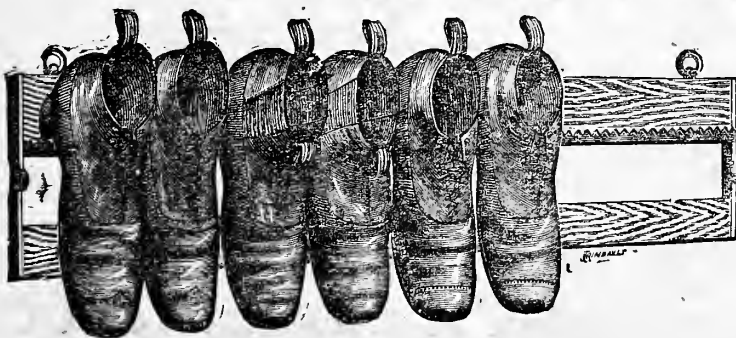
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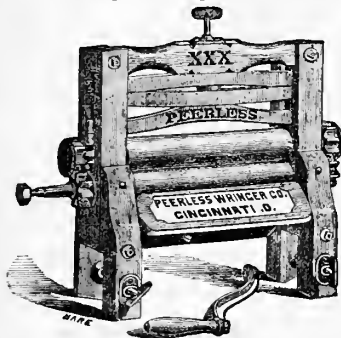
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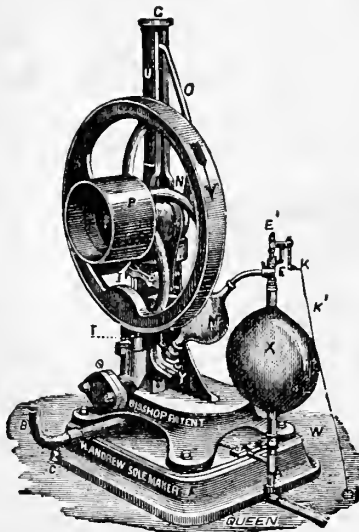
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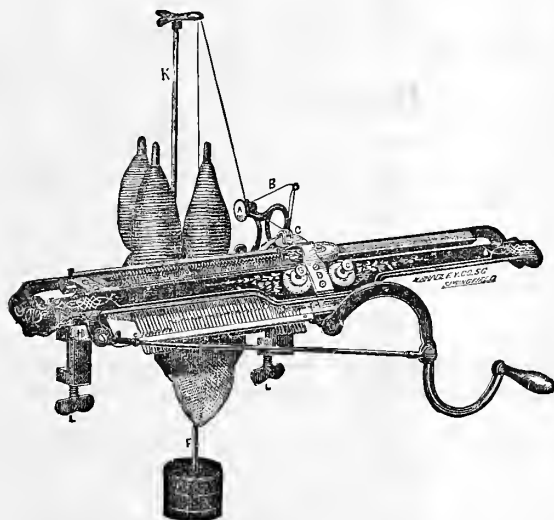
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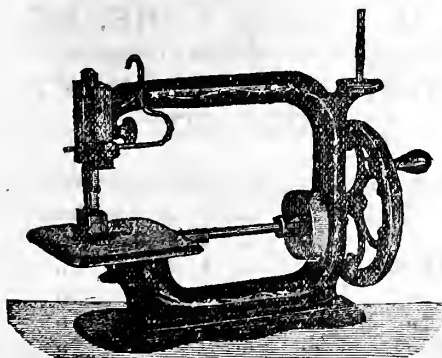
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**THE ORIGINAL MACHINE FOR
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"BEWARE OF IMITATIONS."

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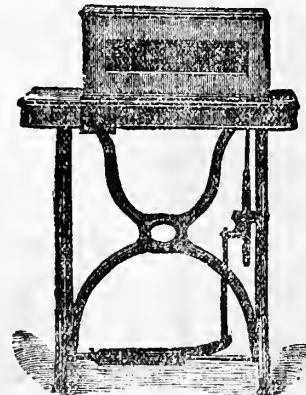
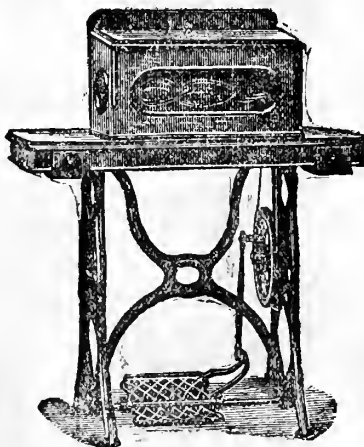
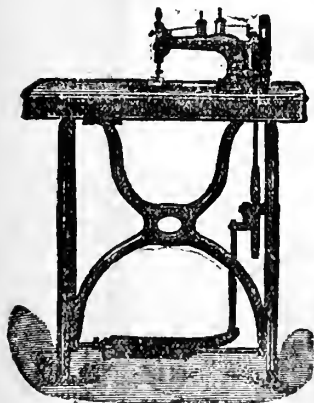
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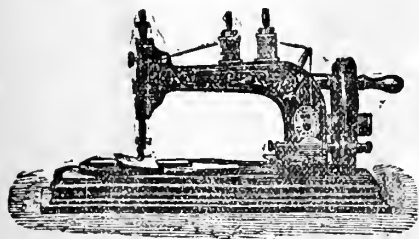
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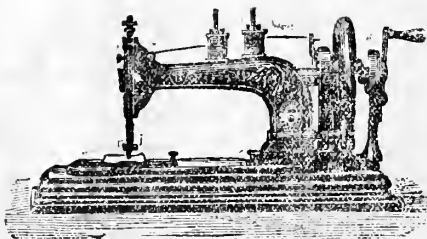
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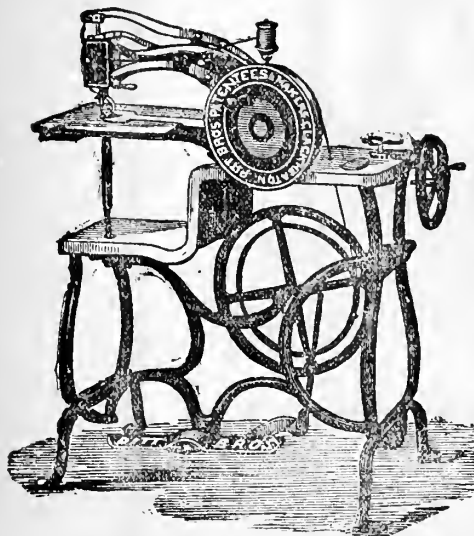
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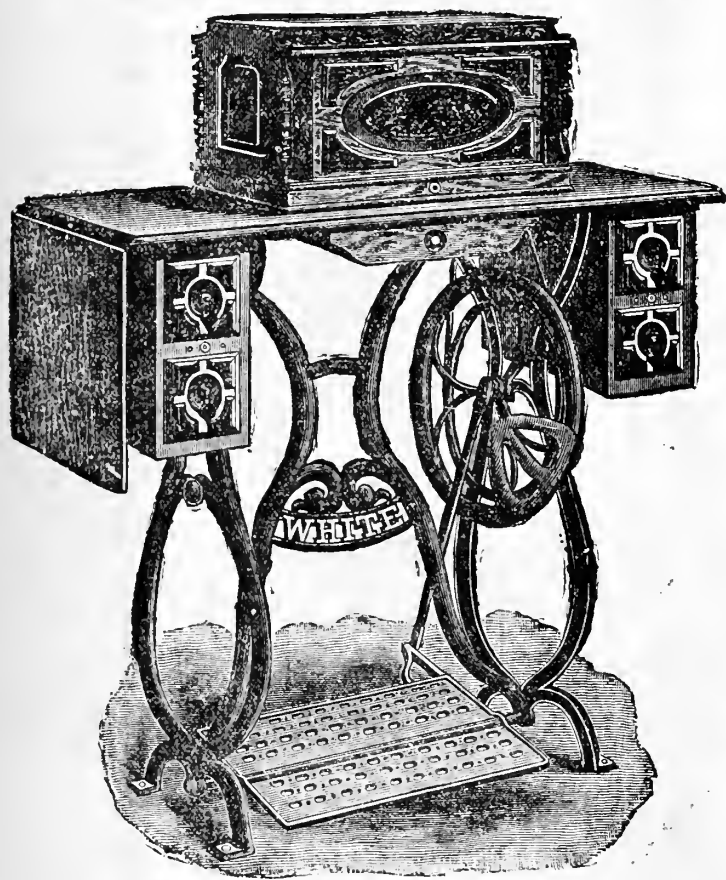
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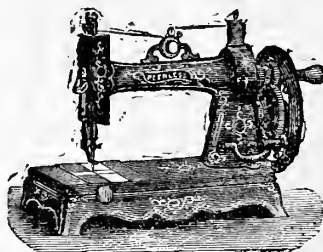
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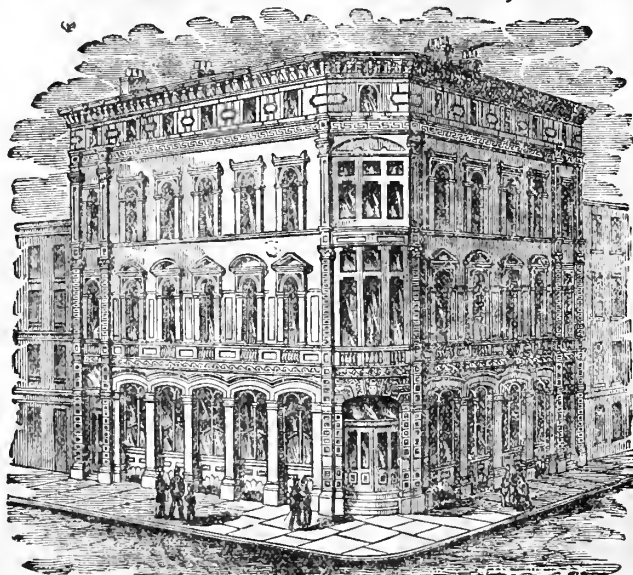
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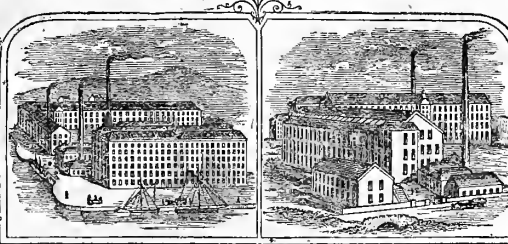
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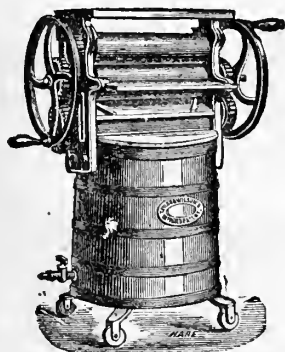
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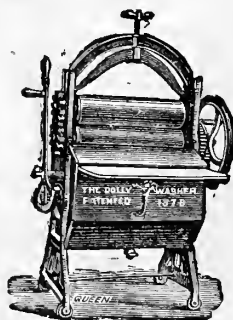
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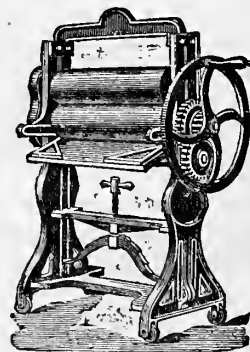
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"DOLLY" WASHER	. . .	SECOND PRIZE
WRINGING MACHINE	. . .	FIRST PRIZE



Price, £6 : 6 : 0.



Price, £3 : 10 : 0.



Price, £3 : 5 : 0.

Awarded upwards of 150 Gold and Silver Medals and First Prizes.

THE ANNUAL SALES EXCEED THOSE OF ANY OTHER WASHING MACHINE.

Our Goods are all guaranteed to be made from the best materials, thoroughly seasoned, and are all fitted with our well-known patents and appliances, which cannot be supplied by any other maker.

Illustrated Catalogue free on application to

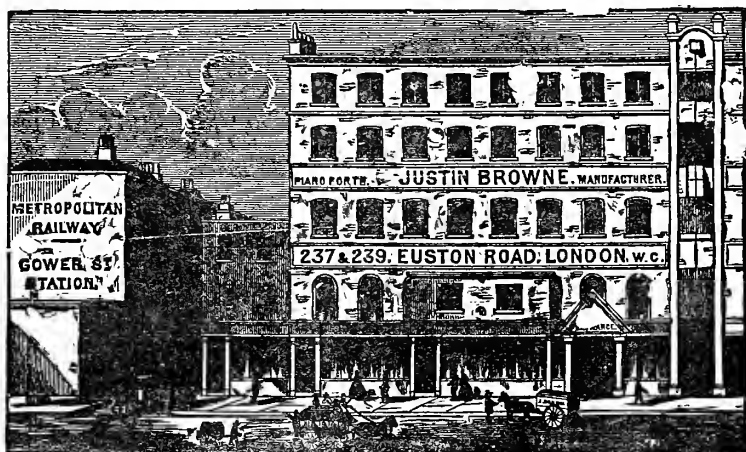
TAYLOR & WILSON,

Atlas Works, Clayton-le-Moors, Accrington.

JUSTIN BROWNE

PIANOS

TROPICAL CLIMATES



WITHSTAND HEAT OR COLD.

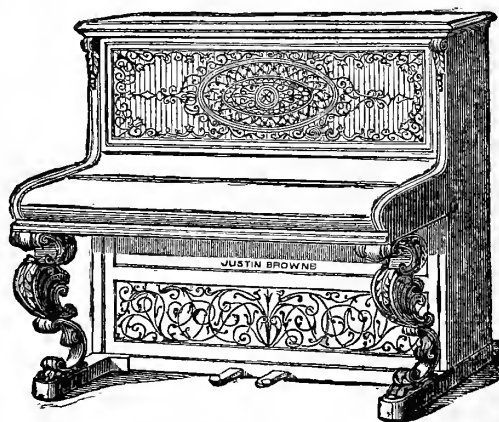
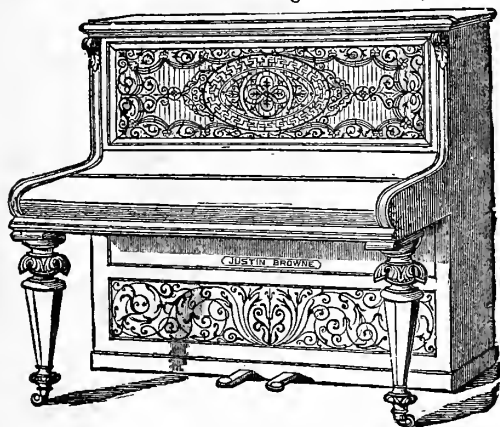
WHICH WILL

PIANOS

Having had a long practical experience in the Manufacture of the

PIANOFORTE

Expressly for Exportation to extreme climates, has succeeded in producing an Instrument which combines English durability and soundness, with first-class quality of tone.



JUSTIN BROWNE can refer to customers whom he has supplied in New Zealand, Costa Rica, Peru, Calcutta, &c., all of whom have expressed the greatest satisfaction, and renewed their orders. His prices will be found to be extremely low in proportion to the quality of Pianos, and in comparison with those of other Houses where the same degree of soundness and durability is studied, the reason of the difference being that in their case, selling as they do retail, there are heavy expenses for Show Rooms, Advertising, &c., which as a Wholesale Manufacturer he does not incur; having only Factory expenses, he can offer an equally good instrument at a much lower figure.

CATALOGUES OF DESIGNS AND PRICES SENT FREE.

JUSTIN BROWNE,
PIANOFORTE MANUFACTURER,
 237 & 239, EUSTON ROAD, LONDON, ENGLAND.

THE SINGER MANUFACTURING COMPANY,

The largest Sewing Machine Manufacturers in the World.

Upwards of 538,609 of these CELEBRATED MACHINES were Sold in the year 1880, being at the rate of over 1,800 for every working day.

THE GREAT SALE affords most convincing proof of their popularity and value, and is attributable to the reputation obtained for

Excellence of Manufacture, Strength and Beauty of Stitch;

AND FOR THEIR

Perfect Adaptability to every Class of Sewing.

PRICE

from

£4 4s.

FOR CASH

from

£4 0s.

May be had on "Hire, with option

of Purchase," by paying

2/6

PER WEEK.



No Household should be without one of the Family Machines, which are unequalled for all Domestic Sewing. So simple, a child can work them.

MANUFACTURERS should see the Manufacturing Machines!

Are unsurpassed for the Factory or Workshop!

CAUTION!

BEWARE OF IMITATIONS! Attempts are made to palm them upon the unwary under the pretext of being on a "SINGER Principle" or "System."

To AVOID DECEPTION buy only at the Offices of the Company.

THE SINGER MANUFACTURING COMPANY

(Formerly I. M. SINGER & Co.),

Chief Counting-House in Europe—39, FOSTER LANE, E.C.

323 Branch Offices in the United Kingdom.

LONDON DISTRICT OFFICES:

195, Holloway Road, N., 3, Castle Street, Kingsland High Street, N.,
51, High Street, Camden Town, N.W.

147, Cheapside, E.C.
132, Oxford Street, W.
81 & 83, Newington Causeway, S.E.
149, Southwark Park Road, S.E.
278, Clapham Road, S.W.

144, Brompton Road, S.W.
269, Commercial Road, E.
174, Hackney Road, E.
45, Broadway, Stratford, E.
3, Ordnance Row, Barking Road,
Canning Town, E.

6, High Street, Woolwich.
7, Kew Road, Richmond, S.W.
1, Clarence Street, Kingston, S.W.
131, South Street, Greenwich, S.E.
4A, North End, Croydon, S.E.

THE SINGER MANUFACTURING COMPANY

(Formerly I. M. SINGER & CO.),

MANUFACTURERS OF SINGER'S SEWING MACHINES.

Chief Counting House in Europe:

39 FOSTER LANE, CHEAPSIDE, LONDON, E.C.

LONDON DISTRICT OFFICES:

147, Cheapside, E.C.; 132, Oxford Street, W.; 51, High Street, Camden Town, N.W.; 31 and 33, Newington Causeway, S.E.; 149, Blue Anchor Road, Bermondsey, S.E. (now 149, Southwark Park Road); 278, Clapham Road, S.W.; 144, Brompton Road, S.W.; 269, Commercial Road, E. (corner of Bedford Street); 174, Hackney Road, E. (opposite Weymouth Terrace); 3, Castle Street, Kingsland High Street, N.; 1, Surinam Terrace, Stratford, E. (between Swan and Bank); 1, Rathbone Street, Barking Road, Canning Town, E.; 7, Kew Road, Richmond, S.W.; 1, Clarence Street, Kingston, S.W.; 131, South Street, Greenwich, S.E.; Croydon, 4a, North End.

PROVINCIAL OFFICES:

ENGLAND.

Accrington, 9, Peel-street
Aldershot, Victoria-road
Alfreton, 68, King-street
Aldford, 17, Marsh-street
Ashton-n-Lynde, 246, Stamford-st.
Aylesbury, Silver-street
Bakewell, North Church-street
Banbury, Market Place
Barnsley, Eldon-street
Barrow-in-Furness, 11, Dalkeith-street
Bath, 5, Quiet-street
Batley, Commercial-street
Bedford, 36, Midland-road
Bicester, Sheep-street
Biggleswade, Shortmead-street
Bingley, Main-street
Birkenhead, 164, Grange-lane
Birmingham, 83, New-street
Bishop Auckland, 29, South-rd.
Bishop Stortford, Wind Hill
Blackburn, 544, Church-street
Blyth, Wooding-ter, Waterloo
Bolton, 52, Newport-street
Boston, 34, Market-place
Bradford, 38, Mechanics Instt.
Braintree, 7, Fairfield-road
Brentwood, 8, Crown-street
Brighton, 6, North-st., Quadrant
Bristol, 18 & 19, High-street
Bromley (Kent), 18, High-street
Burnley, 110, St. James-street
Burton-on-Trent, 76, Guild-street
Bury-St-Edmunds, 78, St. John-st.
Cambridge, 17, Petty Cury
Canterbury, 6, High-street
Carlisle, 302, Bldgs., Bank-st.
Chatham, 142, High-street
Cheddle, High-street
Chelmsford, High-street
Chesham, 24, Fittville-street
Chesham, 68, Fittville-street
Chesham, 1, Corporation-bldgs.
Chichester, 54, East-street
Chorley, 50, Clifford-street
Clitherton, 5, Crown-street
Cleethorpe, 39, Wellgate
Coatbridge, Station-street
Colchester, 32, St. Botolph-street
Colne (Lancashire), 8, Arcade
Congleton, 7, Mill-street
Cove, 12, Fleet-street (of Bablake Church)
Crawley, 67, Northwich-road
Darlington, 10, Preben-row
Dartford, 18, High-street

Deal, 124, Beach-street
Denbigh, 36, Park-street
Derby, 22, Wardwick
Dewsbury, Nelson-street (top of Daisy-hill)
Doncaster, 28, Scot-lane
Douglas (Isle of Man), 5, Strand-street
Dover, 9, Priory-street
Dovercourt, Harwich-road
Dudley, 217, Wolverhampton-st.
Durham, 3, Neville-street
Eastbourne, 46, Terminus-road
(two doors from post office)
Eccles, 81, Church-street
Exeter, 19, Queen-street
Folkestone, Market-place
Gloucester, 116, Westgate-street
Grantham, 11, West-road
Graysend, 20, New-road
Grimsby, 57, Freeman-street
Guernsey, 17, Smith-street
Huddersfield, 161, High-street
Halstead, 53, High-street
Hanley, 49, Piccadilly
Harnage, 11, Westmoreland-st.
Hastings, 48, Robertson-street
Heckmondwike, 2, Market-street
Hednesford, Station-street
Hereford, 57, Commercial-street
Hereford, Forden House, Ware-road
Hexham, 20, Market-place
High Wycombe, 123, Oxford-rd.
Hinckley, Castle-street
Huddersfield, 8, New-street
Hull, 61, Whitefriargate
Huntingdon, High-street
Ikeston, 75, Bath-street
Ipwich, 19, Butter-market
Jersey, 14, New-street
Keighley, 2, Market-place
Kendal, 3, Wildman-street
Kidderminster, Bull King
Lancaster, 19, Brock-street (corner of Penny-street)
Leamington, 38, Windsor-street
Leeds, 11, Boar-lane
Leek, 27, Russell-street
Leicester, 44, Granby-street
Lewes, 161, High-street
Liverpool, 21, Bold-street
Luton (Staffs.), 12, Market-ter.
Loughborough, 44, Market-place
Lowestoft, 123, High-street
Luton, 82, Park-street
Lynn, 9, Norfolk-street
Maidstone, 8, King-street

Maldon, High-street
Manchester {105, Market-street
132, Cheetham-hill
433, Stretford-road
Manningtree, High-street
Mansfield, 32, Nottingham-street
Market Drayton, Shropshire-st.
Market Harborough, Church-street
Melton Mowbray, Victoria House, Market-place
Middlesbrough, 59, Newport-road
Morley, 4, Bradford-buildings, Chapel-hill
Newark, 16, Kirkgate
Newcastle-on-Tyne, 16, Grainger-street, W.
Newcastle-under-Lyne, 34, Bridge-street
Newport (Mon.), 23, High-street
Newport (I. of Wight), 91, Pyle-st.
Newton Heath, 622, Oldham-road
Northampton, 3, Market-square
Northwich, 55, London-street
Nottingham, 26, Wheelergate
Oldham, 70, Yorkshire-street
Openshaw, 37, Ashton-old-road
Ormskirk, 58, Aughton-street
Oswestry, Bailey-street
Olley, 31, Kirkgate
Oxford, 3, New-road
Penrith, 3, Castle-gate
Peterborough, 53, Narrow Bridge-street
Plymouth, 3, Bank of England-pl.
Pontefract, 11, New Market-hall
Portsea, 165, Queens-street
Preston, 147, Friargate-street (opposite Lune-street)
Ramsgate, 31, West Cliff-road
Ratnestall, Bank-street
Reading, 61, London-street
Red Hill, High-street
Retford, 3, Grove-street
Ripley, Market-place
Lipon, 1, Blossomgate
Rotherham, 66, Yorkshire-street
Rotherham, 66, Yorkshire-street
Rotherham, 109, Main-street
Rugby, Lawford-road
Runcorn, High-street
Ryle (Isle of Wight), 78, Union-st.
Salisbury, 56, Fisherton-street
Salisbury, 4, Cross-lane, and 100, Regent-road
Scarborough, 30, Huntress-row

Schotholme, Basford-road
Sheffield, 57, Fargate
Shirley, 10, Kirkgate
Shrewsbury, 4, Market-street
Sittingbourne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 23, Gaol-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, 6, Church-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadincote, Station-street
Swindon, 52, Regent-street
Tamworth, 54, Church-street
Taunton, Bridge-street
Torquay, 53, Fleet-street
Truro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-road
Wellesley, 67, Union-street
Wellingborough, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Windsor, 61A, Peaseod-street
Winstford, Over-lane
Wirksworth, North-end
Wisebath, 51, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-row
York, 21, Coney-street

WALES.

Abergavenny, 19, Market-street
Aberystwyth, Market-hall
Bala, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Llanmaes-street
Cannavan, 5, Bridge-street
Dolbeilly, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pontypool, Market-hall
Pontypridd, Market-hall
Swansea, 103, Oxford-street

SCOTLAND.

Aberdeen, 225, Union-street
Arbroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Cupar-Fife, 61, Crossgate
Dumbarton, 67, High-street
Dunfermline, 127, High-street
Dundee, 123, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 23, Castle-street
Galashiels, 62, High-street
Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st.
Hamilton, 82, Cadzow-street
Inverness, 14, Union-street
Inverness, 85, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Parrick, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 61, Murray-place
Tain, Lamington-street
Thurso, Princes-street

IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st.
Belfast, 3 and 4, Donegal-sq., N.
Carnlow, Tullow-street
Cologline, New-row
Cork, 73, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
Galway, Demick-street
Kilrush, Moore-street
Kingsdown, 65A Lower George-st.
Limerick, 31, Patrick-street
Londonderry, 1, Carlisle-road
Mullingar, Greville-street
Navan, Trillick-street
Newry, 18, Sugar-island
Parsonstown, 2, Salfins
Queenstown, Harbour-row
Sligo, 46, Knox-street
Tralee, 29, Bridge-street
Waterford, 124, Quay
Wexford, Balskar-street

RAYMOND'S CANADIAN SEWING MACHINES.

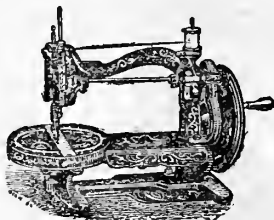


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c. — (See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



ALSO

£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work. Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder.

Testimonials, Prospectuses, Samples of Work, and all particulars free on application.

Raymond's No. 1 and 2 TREADLE MACHINES for Families, Dressmakers, and Manufacturers

AGENTS WANTED.

CHIEF DEPÔT FOR EUROPE AND EXPORT:

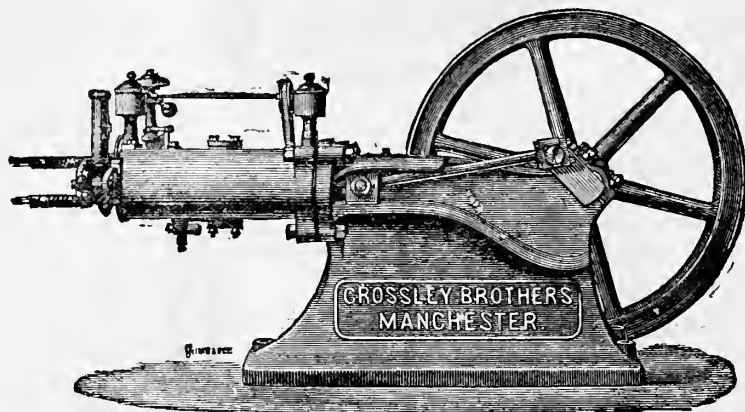
11, MOUNT PLEASANT, LIVERPOOL.

P. FRANK, AGENT.

ESTABLISHED 1863.

An Engine which works without a Boiler or Steam.

AVERAGE MONTHLY DELIVERY (including Continental) OVER 180 ENGINES.



THE "OTTO" SILENT GAS ENGINE.

IS RAPIDLY REPLACING STEAM ENGINES FROM 1 to 40 HORSE POWER IND.

WORKS & HEAD OFFICES:
Great Marlbro' St., Gloster Bldg.,
MANCHESTER.

CROSSLEY BROS., LIMITED,
MANCHESTER.

LONDON HOUSE:
110, Queen Victoria Street, E.C.,
LONDON.

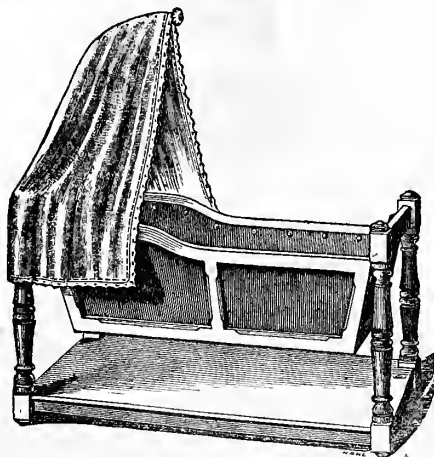
BY ROYAL



LETTERS PATENT.

THE COMBINATION COT

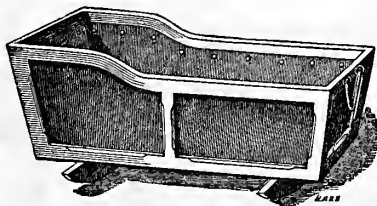
Is highly
recommended for
Durability,
Lightness, Strength,
Elegance, Economy,
Cheapness,
and
Usefulness.



Every mother
should purchase
the latest
USEFUL NOVELTY
which combines
three useful
articles in one:—

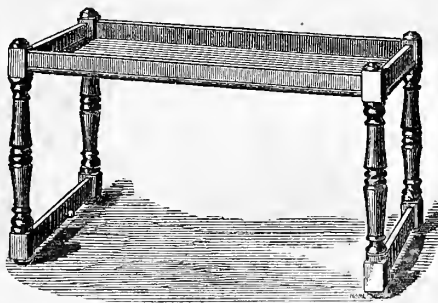
THE COMBINATION COT,
CONVERTIBLE TO

Handsome SWING
COT for Night,
Improved
BASSINETTE,



LUNCHEON, PLAY,
or
INVALID TABLE
by Day.

IMPROVED BASSINETTE,
WITH REMOVABLE ROCKERS, AND

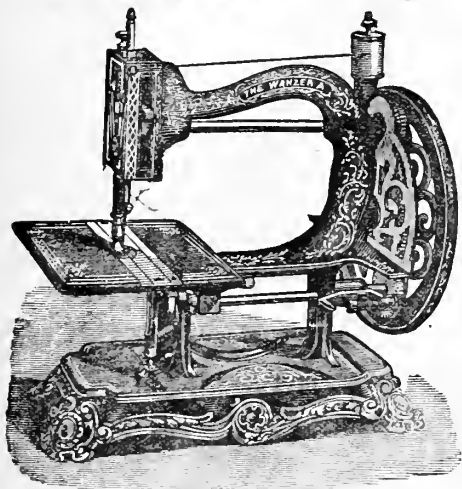


NURSERY AND INVALID'S TABLE.

AGENTS WANTED! LIBERAL TRADE TERMS!

Patentee and Sole Manufacturer, T. HANSELL, St. Albans.

THE "WANZER"



WANZER "A"

IS THE

Great Mechanical Success of the Age.

It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

LOCK-STITCH, HAND OR FOOT, SEWING MACHINES.

First Prize Medals, Honours & Awards, wherever Exhibited.

THE NEW "LITTLE WANZER."—Entirely reconstructed and improved. Nickel-plated, Loose Wheel, New Patent Shuttle, Take-up Lever and Spooler. £4 4s.

WANZER "A." Simplicity Itself.—The most powerful yet light running Hand Machine, straight race. £4 4s.

WANZER "C" Light Foot Family Machine, entirely New, with every improvement up to 1879. £6 0s.

WANZER "F" Family Machine, with Reversible Feed and Stitch Lever. £7 10s.

WANZER "E" Wheel Feed Machine, for heavy work of all kinds £8 8s.

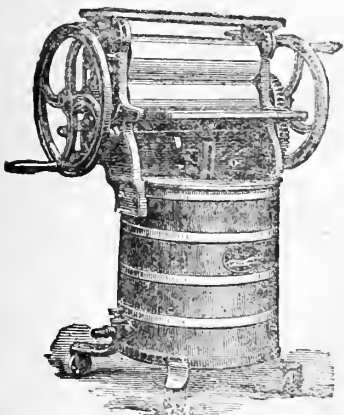
WANZER PLAITING, KILTING AND BASTING MACHINES,

Over 200 varieties of perfect Plaiting or Kilting, from 30s. complete. *The only Machine Kilting and Basting at one operation.*

The Wanzer Sewing Machine Company,
LIMITED,

Chief Office—4, GREAT PORTLAND ST.,
OXFORD CIRCUS, LONDON, W.

NEW HIGH-CLASS WASHING MACHINE.



The "PARAGON" Washer, Wringer and Mangle (KENWORTHY'S Patent) is a compact powerful and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize Silver Medal, General Competition, and also an extra First Prize, Silver Medal for Improvements; Worsley Agricultural Show, the Society's Medal; Altrincham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society Medal; also gained Prizes and Honours at the Northumberland, Halifax, Tormorden, and Preston Agricultural Shows.

Showing PLUNGER, which works up and down in tub about 60 times per minute, atmospherically forcing the hot water and soap through the clothes, thus not only loosening the dirt but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate articles.

Mr. JORDAN EVANS, 92, Cawder Street, Prince's Road, Liverpool, says:—"I beg to inform you that the 'PARAGON' Washing, Wringing, and Mangling Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in less than two hours."

Patentees and Sole Manufacturers of the Celebrated and World-Renowned PATENT "CANADIAN WASHER," which is the most Simple, most Effective, and the most Economical Washer ever offered to the Public. This is on the same principle as the "Paragon Washer" Plunger, but is made to use by hand in any ordinary maiden tub, washtub, or bowl. Over 30,000 have been sold in a short time.

AGENTS WANTED in Districts not yet Represented.

E. N. KENWORTHY & CO., WASHING MACHINISTS, ALPHA WORKS, **OLDHAM, LANCASHIRE.**

London Agent, Mr. HARPER TWELVETREES, Finsbury Pavement, E.C.

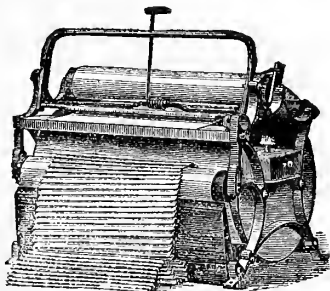
NOVELTIES OF THE MONTH.

—:—

THE KENDALL PLAITING MACHINE.

This kilting machine was patented in America June 29th, 1880, but has only recently been introduced here. It is a very effective machine and will make from 50 to 80 plaits per minute, any size plaits up to $1\frac{1}{4}$ inch and any width to 12 inches. The speciality of this plaiter is that it is heated by oil lamps, and is available in houses where there is no gas supply. For the village dressmaker we know it will be just the thing desired. As the directions for use, which we give below, will show, it is very simple and easy to manage.

Prepare the goods by rolling them up in a wet cloth, and let them lie 25 or 30 minutes, or if wool goods brush a wet sponge over the back leaving a fine spray evenly over all; roll evenly as possible on the spare roll (right side out and hem to the right); place roll in the holder (goods face up, hem to the left); enter the end of goods over the shelf and under the knife; press on top knob, and shove goods under top roll; remove the pressure and move knife back to the gauge, then press on knob and shove under the roll, back without and forward with pressure on knob.



The Kendall Plaiting Machine.

Make about 30 Plaits per minute while the machine is cold, but when the goods begins to come out increase the speed to 50 or 60, or as fast as the goods will dry and the plaits set.

Starched cotton goods and generally coloured silks need no damp, and may be plaited much faster.

If woollen good plaiting sticks to the cylinder when it comes out, it is because it was dampened too much or plaited too fast, not giving it time to dry, and the plaiting will open out with edges slightly rounded, and if not damp enough the plaits will open but edges will be sharp.

The Lamp.—Have the flames burn $\frac{1}{4}$ to $\frac{5}{8}$ inch high; light one more wick than will be as wide as your goods, and enter in the holder, leaving the flames outside; when ready to plait push the lamp in so the flames will be under the goods, and commence plaiting slowly, until the machine is all warmed, and then faster; should you wish to stop, draw the lamp out at once, or you will burn your goods. Fill the lamp with lard, lard oil, or sperm. The gauge regulates the size of the plaits; moving it to the front enlarges their size, and if very coarse plaits are wanted, hook the connecting rod in the hole at the bottom near the knife; set the gauge up on end and draw the knife back so its edge will pass down by the cylinder, press it against the goods and draw up by the knob, and push in under the top roll; then make a stroke with the edge of the knife turned up, thus making a plait every other stroke; this makes about $1\frac{1}{4}$ inch plait.

Cluster Plaits.—Plait as many plaits as you want, then turn the edge of the knife up and make as many false motions as you want space.

If the knife draws the goods back from under the top roll, when the plait is formed, it is caused by the belt being too loose; or second, by your pressing on the top knob while drawing back the

knife; or third, by some feather edge or burr on the edge of the knife (which may be removed by a whetstone). In the first case, tighten the belt by raising the front roll, both ends alike; do not make it so tight as to spring the cylinder, as it will pinch the edge of the knife too far back from the edge.

Different degrees of fullness are made by hooking the connecting rod in the different holes in the yoke, the lowest of the three being the fullest. (See Advertisement, page 41).

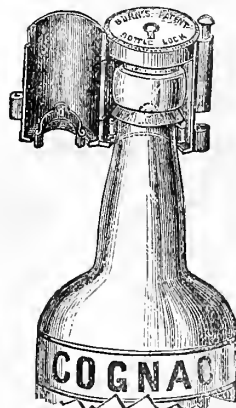
A PATENT BOTTLE LOCK.

Those who are troubled with servants who have a weakness for drinking their master's wines or spirits and ascribing it to the cat, those who have children given to prying into cupboards, where various poisons are sometimes kept, and indeed all who wish to keep liquids safe in bottles, will find the little article known as



Small size Bottle Lock.

"Burne's patent bottle lock" a simple yet valuable invention. It is made in several sizes, and can therefore be used on either a small bottle of deadly poison or on a huge stone vessel of whiskey. It is not always convenient for the mistress or house-keeper to go to the cellar wherein the articles are locked, the servant must oft be entrusted with the keys and if she is not honest it is difficult to say how much spirit in a stone-keg may be drank and be replaced by water. As a safeguard to bottles containing poison it must at once strike everyone that it is of great value, and if largely used would

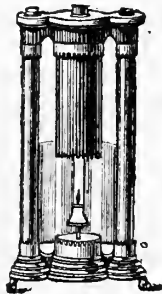


Large size Bottle Lock.

prevent many cases of accidental poisoning. The article fits on to the neck, it closes with a little pressure and requires the key only for the purpose of unlocking. It is neatly yet strongly made in nickel and is electro-plated. We recommend it as a valuable novelty to ironmongers, domestic machinery dealers, and most especially to chemists who would sell it largely if they introduced it to their customers. The manufacturers of the patent bottle lock are Messrs. Thomas Turner and Co., Brick-Kiln-street, Wolverhampton.

THE "SYPHON" CONDENSING STOVES.

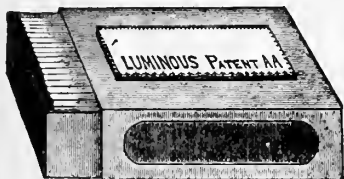
This gas stove is made expressly to heat a room, hall, or conservatory without in any way rendering the air impure. Though similar in outline or design to some others is it entirely different in its construction, there being a special patented arrangement for conducting the warm air—after it has parted with its noxious vapours in the side condensing tubes—by a separate tube into a syphon box right over the flame, but not communicating with it, and so passing the air into the room at a very high temperature if



required, and as pure as any heated air can be. They are usually coloured in black and bronze, or these colours combined with granite side pillars, and a copper or red black reflector in centre. Other forms are made in ornamental cases and of larger sizes, at prices from 5 to 10 guineas, according to the class and amount of decoration. This stove requires no flue nor does it give any smell. It is at the same time economical in its consumption of gas. The manufacturers are the Hygienic Heating and Lighting Company, 16, North-buildings, Finsbury-circus, E.C.

THE LUMINOUS MATCH BOX.

What would our grandmothers who used to grope about in the dark with flint and steel, have said could they have beheld this invention. We are afraid the English language would hardly contain adjectives sufficiently powerful to express their surprise. The object of the present invention is to make match-boxes luminous



in the dark and this would avoid the breaking of ornaments and other articles that a search in the night for matches often entails. We have no doubt but what these boxes will come shortly into general use. Matches at the onset were hut costly articles sold by the chemists and know as "Chemical Lights." The inventor is Mr. Adolph Aron, 4, Rose-street, Newgate-street, E.C.

RAILWAY RATES.—The Midland Railway Company is said to be contemplating the issue of season tickets for bicycles, in order to facilitate booking, &c., and to encourage riders to use the rail more, the company of course making extra profit on the passenger fares. Racing men in particular would find such an arrangement invaluable in getting from one track to another, and home with their machines.

The number of bills of sale filed in England and Wales during the week ending Jan. 28th, was 1,015. The number in the corresponding week of last year 996, showing an increase of 19, being a nett decrease in 1882, to date, of 212. The number filed in Ireland during the same week was 20. The number in the corresponding week of last year was 29, showing a decrease of 9, being a nett decrease in 1882, to date, of 51.

A NEW BUTTON-HOLE ATTACHMENT.

Mr. John K. Harris, of Springfield, Ohio, has invented a simple and efficient button-hole attachment, which is soon to be placed upon the market. It can be readily attached to machines without any change in them whatever. The mechanism employed consists of a bed-plate, with a duplicate of the shuttle-race slide attached to its under side, and having an adjustable lever pivoted to raised ears at its rear end, and extending forward the whole length of the bed-plate to connect with the needle-bar of the machine; also of a needle-feeding cloth clamp and guide, of novel construction, and devices located at the rear of the bed-plate, by which the operating lever is made to oscillate the clamp and guide on a fixed centre midway between the needle-hole and the rear end of the bed-plate. The feeding of the goods, both backward and forward under the action of the needle, is effected by the lateral motion of the cloth-clamp itself, by causing it to impinge against a stationary stop, whereby the oscillating movement is converted into an intermittent progressive, right line feed movement simultaneous with the oscillation.

Its operation is said to be simple and plain. We have seen a number of samples of the work, and it must be confessed that it is strongly, neatly and beautifully done. It is fully patented. When placed upon the market it will be sold at cheap rates. The intention is to furnish them at special prices to sewing machine agents and dealers, who can in turn make a good profit on them by selling to factories and families.—*Sewing Machine News.*

THE "AMERICAN" NO. 7 MACHINE.

In presenting the New American Sewing Machine to the world the world the American Company have to the people a very handsome, artistic and scientific machine, the result of many years of observant experience, abundant facilities for manufacture, and a thorough knowledge of what the people need. It is adapted to a very wide range of work, lightly but very durably made, handsomely ornamented, and with a number of features of improvement that must infallibly make it a popular and readily selling machine.

It has great capacity under the arm, and is strikingly simple in its mechanical parts. One of its points of merit is an ingenious arrangement to regulate the length of the stitch so as to change while operating, and return to the original number of stitches per inch; the advantage of this arrangement will be readily appreciated by sewing machine people.

It has a very even, self-adjusting and graduated tension.

It is entirely self-threading at all points.

Its perfect, almost self adjusting, and graduated tension is under easy control of the operator, and always positive in its working.

It is entirely self-threading at all points including the shuttle.

The needle is self-setting, and requires no mark or screw-driver and the attachments are quickly and easily placed and fastened.

The shuttle has an easy oscillating motion, causing it to keep its proper place against the race.

The shuttle which is made of cast-steel and hardened in all its parts, is perfectly self-threading.

The bobbin holds a large amount of thread, and by means of the loose balance wheel can be wound without running the machine.

The shuttle lever and feed lever are nicely balanced, both working on a central pivot.

The press-bar has a long, hardened steel guide giving perfect steadiness to the presser-foot. The pressure can very readily be adjusted to suit different fabrics.

The feed is strong and positive in its motion; requiring no spring, it has a double motion and is novel in its construction.

The stitch-regulating arrangement is unique and like the feed is peculiar to the American machine.

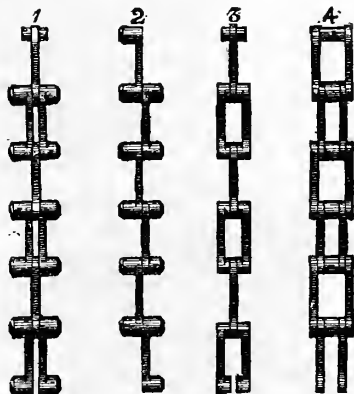
The dial plate always indicates the number of stitches in an inch space; the crank and plunger may be set on and the stitch can be regulated while the machine is in motion. The height of feed can be regulated at pleasure by means of an eccentric.

RECENT IMPROVEMENTS IN BICYCLES AND TRICYCLES.

—:—

NON-STRETCHING CHAIN FOR BICYCLES AND TRICYCLES.

Among the recent useful inventions connected with the bicycle trades, the non-stretching chain, patented by Messrs Warman Luxon and Youeth, of Albion Mills, West Orchard, Coventry, deserves more than a passing notice. Their patent non-stretching chain, of which we give illustrations for driving bicycles, tricycles, &c. They are now supplying largely to manufacturers, and have received many ecomiums as to their value.

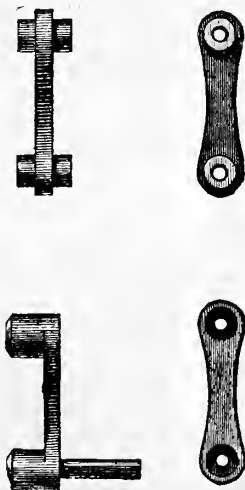


Patent Non-stretching Chain

WARMAN, LUXON, & ASLATT,
WEST & ORCHARD, COVENTRY.

Patent 3716.

The No. 1 Pattern (shown on figure) is formed of double and single Steel Links alternately, and each outer link is recessed to receive the boss of the central one. This is to prevent all possibility of strain occurring on the joint pin. The bosses on the outside



of double links form the working part of the Chain, and pull on to the teeth of the cog wheel, which is of special design, as follows:—The wheel has two flanges, which are toothed to receive bosses on

links, and the Chain, burying itself in the groove formed by the two flanges, is protected from coming off. Thus, it is claimed for this design that it is beyond doubt unstretchable and safe.

No. 2 Pattern is a simplification of No. 1, possessing, however, all its advantages, excepting so great a strength, which, by nature of its construction, is apparent. It, however, is most useful, and will bear an immense strain in proportion to its weight, and is vastly superior to any other at present in use.

No. 3 Pattern is on the same principle as No. 1, but is arranged for ordinary tooth wheels, having wide spaces. By bringing the bosses on the connecting (single) link close together, this Chain can be made to suit wheels having spaces equal in width to the teeth. This design is in all respects quite equal to No. 1, and no doubt will be as readily adopted for all mechanical purposes.

No. 4, Pattern is the same design as at present in use, but possesses patented qualifications of a direct pull on the links, and no strain on the joint pins. The narrow or middle links are made in one piece.

Figure 2 shows the method and construction of links, and very trifling mechanical knowledge is requisite to perceive the value claimed.

MESSRS. NORRIS BROTHERS, IMPROVEMENTS.

Messrs Morris Brothers, Cambrian Bicycle Depot, Cardiff, report the following improvements in their machines:—No. 1. Hub. Gunmetal and recessed to within 5-16ths of the edge, in the recess is a gunmetal ring cut into segments, holes are drilled through the overlapping flange and segments, the former holes being blank, and the latter have thread cut in them, into which are screwed the spokes. By this method they (the spokes) are not liable to break off and should they do so, new ones are easily and quickly replaced without drilling or retapping, the segments are covered over with a neat cap and in general appearance the hub cannot be detected from an ordinary direct acting spoke hub. No. 2. A spring made of 5-16ths square steel. It is fastened in the ordinary way by a bolt at the neck and then continues down each side of backbone for about 14 inches, after which it turns back and continues to within 3 inches of the neck and terminates with a loose end, on which is fixed the saddle; midway between the neck and end of spring is a gunmetal moveable saddle piece, which rests on the backbone and by means of which the elasticity of the spring may be altered, when it is moved nearer the neck, the spring becomes more elastic, and when moved the reverse way it becomes stiffer. No. 3. Non-vibrating backbone. At the extremity of backbone is inserted a spiral spring to suit weight of rider, the spring takes off all vibration caused by small back-wheels when travelling over rough roads and pitching.

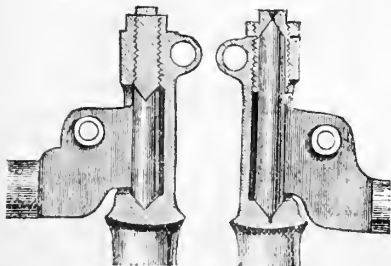
MESSRS. CHALLIS BROTHERS, IMPROVEMENTS.

Messrs. Challis Brothers, Bushberry-works, Sidney-road, Homerton, report the following improvement for bicycles:—Challis Patent Steering Head for Bicycles—In place of the usual set screw, we employ a cap which screws over top of Stanley head. The interior of the cap is coned to receive top, end of centres (or spindle). By having a suitable groove at bottom of spindle, balls may be used in place of the bottom cone. These lessen friction and facilitate steering. A longer spindle, and consequently greater strength and rigidity are obtained in this head than in any other manufactured. Messrs. Challis Brothers are not makers of bicycles and are therefore prepared to licence for a small royalty.

THE SANSPARIEL IMPROVED HEAD.

W. Andrews, Patentee and Manufacturer, 3, Shelhurst-lane, Birmingham. As is well-known, short centres destroy the rigidity of the bicycle, as the backbone and small wheel, acting as a lever, exert an immense force upon the neck, and therefore require strong centres to meet the strain. This point is too little studied, and a general shakiness is the result.

The annexed drawing will show the nature of the improvement in Andrew's head, instead of the upper centre terminating in a female cone and receiving the top screw, it is carried right up to the top of the head and ends in a male cone. Over this passes the top screw, which is made hollow; it screws into a solid body of the head, and consequently is a very strong but free working support to the centre. By this plan the centres are no less than 5-in. long, the handle bar being 6-in. above the tyre. A small thin lock-nut keeps everything firm, and a dome covers the whole; a tiny orifice at the top is drilled for lubricating. The neck is nicely shaped, and the butt end of the backbone brought well up to the shoulders of the weldless tubular fork. A neat shape spoon is fitted to the front brake, and the upper lever, which has an ebony handle, comes well out towards the end of the steering-rod, thereby allowing considerable power to be applied; when not in action a stout spring



holds it off the tyre. Gun-metal hubs are put to all machines. Double ball bearings, with side adjustment, are employed; each bearing contains fourteen balls, kept apart by a cage. Either Rudge's or Down's are put to the rear wheel, which ranges in size from 16-in. to a 50-inch, to a 18-in. for a 50-in. The average weight is 42lbs., while the racers are very light. In the latter class of machines the new head is of extra value. Mr. Andrews also manufacture the "Sanspareil" triocycle. The framework is made of cold-drawn weldless steel tube, by the use of which is obtained the minimum of weight with the maximum of strength. The rider sits between two wheels, each of which runs upon a fixed stud or axis, and is propelled by the rotary or bicycle action, with multiplied gear, by means of which, although only 40-in. front wheels are used in the ordinary size, the same speed is obtained as from 50-in. ditto. The seat is adjustable, both horizontally and vertically. A saddle can be fixed in place of the seat if desired. The machine has a powerful friction brake (acting direct on the front wheels).

THE SEWING MACHINE AWARDS AT ATLANTA.

The following list of awards to the different sewing machine companies at the International Cotton Exposition is from the *Sewing Machine Journal*.

"AMERICAN" SEWING MACHINE COMPANY, of Philadelphia, P.A.

This exhibit is worthy of special praise for artistic arrangement, beauty of specimens of needlework shown, the adaptability of "American" sewing machines to all kinds of work, their simplicity of construction, chaste design, and the small amount of power required to operate them.

REMINGTON SEWING MACHINE COMPANY, of Illion. N.Y.

We find the Remington sewing machine possessed good qualities for family purposes, having capacity for a wide range of work. The specimens of plain and ornamental work done on this machine compare favourably with other exhibits of the same character.

WHEELER AND WILSON MANUFACTURING COMPANY, of Bridgeport, Conn.

The display made by this company commands admiration for its great variety of sewing machines, remarkable for fine mechanism as well as for their adaption to a wide range of work for domestic and manufacturing purposes, its capacity for a high rate of speed, being a valuable feature of this machine.

BICYCLE NEWS.

THE Stanley Bicycle Club exhibition will open on February 9th, and will extend to the 18th. It is to be held in the galleries of the Agricultural Hall, the ground floor being at the same time filled with an exhibition of all articles appertaining to sports and games. It was felt by the promoters of the Stanley show, that the Holborn Town Hall, most inconveniently crowded last time, would this year be much too small to accommodate all exhibitors. We learn that the Agricultural Hall galleries will be well filled, and that the number of exhibitors will be half as many again.

We regret to note the financial difficulty of Messrs. Timms and Co., Bicycle Manufacturers, Coventry. A meeting of creditors was held on the 26th inst., at 18, Smithfield-street, Coventry. A proposition was made by one of the debtors to purchase the estate from the trustee Mr. Charles F. Barnard under certain conditions for a sum of 20s. in the pound on the amount of claims against the estate, payable by three equal instalments of 6s. 8d. in the pound at three, six, and nine months respectively.

The subject of bells for bicycles is now attracting much attention. A correspondent of a contemporary gives the following as his idea of a stop bell. "Get a common stop-bell, and have the end of the chain or cord which is attached to the ball fastened to the handle also, but sufficiently short so that the ball may hang by that only, and of course, when the bell chain is shortened by the hand and the ball cord slackened, it will commence ringing, which would cease as soon as released. The ball must of course fit loosely in the socket, or it would not act."

It is just on the *tapis* that some important unions may take place of bicycle and triocycle clubs.

A correspondent at New Zealand sends us a few particulars concerning the bicycling trade of that country. The machines mostly ridden there are "Singer's" specials, and D.H.F.'S, which can be bought there at a very small percentage over the English retail prices. The roads in New Zealand are very rough and rough chimes are therefore required strong, and several local manufacturers are now selling machines of extra strong build. English manufacturers desiring to cultivate a trade with New Zealand should bear these facts in mind, and make a solid substantial machine for that market. Why not christen it the "New Zealand."

There seems to have been considerable change in the retail bicycle trade of Manchester. Messrs. Singer and Co., have removed to Piccadilly, Mr. Elderkeir, of Burlington-street, has taken a larger shop in Oxford-road, Messrs. G. Richards and Co. have opened a large establishment in City-road, where they manufacture the "Atlantic Special Bicycle," and Mr. W. H. Paterson has removed to a larger shop in Deansgate.

The following tariff of railway charges for bicycles may be of some value to our readers. The charge for under 50 miles is one shilling, for over 50 and not exceeding 75 miles is one shilling and six-pence, over 75 miles and under 100 is two shillings, over 100 and not exceeding 150 is two shilling and six pence. Every additional 50 miles or portion of same is sixpence. At this rate the bicycles are carried as luggage at owners risk.

SEWING MACHINE NEWS.

We extract the following from the *London Gazette*. Mr. James M. Mackenzie, Market-street, Manchester, sewing machine dealer. Dividend of 2d. has been paid. Bankruptcy closed December 6th.

The London sewing machine warehouses have not allowed the Christmas season to pass without bestowing on their various windows a considerable amount of taste in decorative display. Messrs. Wilcox and Gibbs have in their window several wax figures representing a bride and her attendants elegantly dressed, of course the work of the company's machine. These attract much attention from the passers by.

The Singer Manufacturing Company exhibit some very fine specimens of embroidery, also a wax figure attired in blue satin costume, most elaborately worked by their embroidery and button hole machines. Messrs Jones and Co., at their Aldersgate dépôt make a very pretty show, the window is not very large but is well worth a visit. We think many of our country friends would get from it several good hints on window dressing.

The White Sewing Machine Company, the Wheeler and Wilson Manufacturing Company, and the Howe Machine Company, in Queen Victoria-street, all have windows most attractive. The specimens of flowering on patent and kid leather done by their No. 8 machine cannot we should think be surpassed.

The Nelson hand lock-stitch machine of Messrs. Todd and Co., of Rose-street, Newgate-street is rapidly gaining many friends, and sales are largely increasing.

We have lately heard of several inventions in button-hole machines, we have even seen the designs, but the finished article is very slow in making its appearance in public.

The beauty of the work executed by the Heberling Running Stitch Sewing Machine, has caused a greater demand for "fringing" and "gathering" than was anticipated when this description of trimming first became fashionable in ladies' apparel, and is now in use not only in the work-rooms of the leading West-end drapery establishments, but also by the City and provincial manufacturers of costumes and underclothing. The genuine machine bears the trade mark of the Company on the cloth plate, the driving wheel and all bright parts being nickel plated.

We would call the attention of our readers to the advertisement on our leader page, of Mr. John Tester, a gentleman well-known in the sewing machine trade in which he is held in great respect and esteem. Mr. John Tester has been manager at various of the dépôts of Messrs. Bradbury and Co., Lim., for many years, and when he left their employ in December last, was presented with a testimonial from the employés at the Birmingham dépôt in the shape of a handsome bible. We wish Mr. Tester good success now in business for himself as representative in Europe of the Williams Manufacturing Company. An illustrated description of these machines we hope to give in an early number.

Mr. James Warwick, the well-known Manchester manufacturer of sewing and quilting machines, has recently placed upon the market a lockstitch machine, producing from 1,500 to 2000 stitches per minute especially suited for manufacturing purposes, an illustrated description of this machine will appear in our next issue.

SEWING MACHINE MOTORS AT THE PARIS ELECTRICAL EXPOSITION.

Mr. Bacle has on exhibition his magic pedal, which consists of a double ratchet wheel, elastic and silent. The dead centre is entirely done away with. The slightest movements of the feet are utilised, so that the hands have all their liberty of action. This pedal will prove very useful to manufacturers of electric machines, as it may be used to drive a small-sized Gramme machine, and will not give it a reverse motion, which would be detrimental, makes its employment easy, and, as when used on a sewing machine, utilizes the slightest efforts. The jury awarded a bronze medal to Mr. Bacle.

Messrs. Bariquand and Son exhibited their embroiderer. They also exhibited two rufflers, capable of doing very fine and regular work; and several sewing and shirring machines. All these were driven from a small underneath shaft and pulleys belted to the fly wheel of a Gramme dynamo machine.

Messrs. Jeanseume and Co., Mr. Schaiblé and Mr. Vigneron had plaiters on exhibition.

The different sewing machines of Messrs. Ramousset, Thabourin, and Vigneron are also in Class 14, Group V. These machines are driven by the electric motor (Marcel Duprez system) manufactured by the engineer Guichard. Each machine has its motor on the floor in front of or on one side of its stand, and is connected to it by a belt from its driving pulley. The motor receives the electric current from the main dynamos of the Exposition. When used to drive sewing machines by a current derived from a battery, these motors give forth 150 kilogrammetres of power for each gram of zinc consumed, and respond immediately to the action of the electric current. Several of them may be driven by the same electric generator, each receiving and using the requisite quantity of electricity independent of the others. The generators furnish only the exact quantity of electricity used, so that there is never any waste of power. Though somewhat larger, this motor is of the same form as the Trouvé motor, of which we recently gave a description, and, like it, employs the Siemens armature; but it is twice as economical, as the Trouvé motor gives only 70 kilogrammetres of power for each gramme of zinc used.

It appears to us that this motor is capable of doing good service, for the ease with which it drives a sewing machine was fully shown by the experiments at the Exposition.

Bessand and Co., of the Belle Jardinière establishment, exhibit a new electric motor for sewing machines. It requires a steam or gas engine to operate it, so it can only be used in manufacturing establishments. This company received a bronze medal for their exhibit.

In the American section is a small double induction motor of two-horse power, driven by a current from automatic batteries. It is adapted to drive any kind of sewing machine, and is said to be economical. It is running a Wheeler and Wilson machine. This motor is exhibited by the Philadelphia Electro-Dynamo Company, represented in Paris by the French and Belgian Banking and Discount Company. *La Machine à Coudre.*

TO INVENTORS. GENERAL PATENT OFFICE

ESTABLISHED 1830.

G. F. REDFERN,

(Successor to L. De Fontainemoreau & Co.),

4, SOUTH STREET, FINSBURY, LONDON;

ALSO AT

PARIS AND BRUSSELS.

Provisional Protection, £7; French Patent, £7; Belgian, £8; German, £10 10s.; United States, £17 10s. Designs and Trade Marks Registered. Circular gratis on application.

PRELIMINARY NOTICE

IMPORTANT TO
SEWING MACHINE AGENTS.

THE
WILLIAM MANUFACTURING CO.,
OF
MONTREAL,
SEWING MACHINE
MANUFACTURERS

Beg to announce that they made arrangements with
Mr. JOHN TESTER (Many years connected with
BRADBURY and CO., Limited), for representing them
in Europe.

The Sewing Machine, manufactured by the **Williams Co.**, have earned a Wide Spread Reputation in the
Dominion of Canada and the United States, for
Simplicity of Construction, Durability, and Beauty of Finish; and Sewing Machine Agents and Dealers will
be consulting their own interests by inspecting the
Machines before placing their orders elsewhere.

For Terms apply to

JOHN TESTER

DR. JOHNSON PASSAGE,

BULL STREET,

BIRMINGHAM.

THE
LIGHT-RUNNING
STANDARD
Has No Equal.



NONE SO SIMPLE,
NONE SO DURABLE,
NONE SO RELIABLE.

Examine it Before Purchasing any other.

RENNICK, KEMSLEY & CO.,
4 FINSBURY CIRCUS, LONDON,
ALSO,
Melbourne and Sydney.

WANTED.—A trustworthy, industrious Assistant of good address, for Sewing Machine Trade. Reference must bear strict scrutiny; To the right man a steady situation and liberal terms. Apply to W. H. Beal, 17, Corn-market, Halifax.

STAY MACHINES.—A Manufacturer of Sewn Stays wants Addresses of Manufacturers of Sewing and Embroidering Machines or other tools concerning this Branch. Apply by letter to "2 T. T." care of Nygh and Van Ditmar's, General Advertising Offices, Kalverstraat, 62, Amsterdam.

WHO can supply Sewing Machines especially adapted for the Brodering of Travelling and Plush Covers. Address to F. 72,579, care of Messrs. Haasenstons and Vogler, Stuttgart.

A Berlin Sewing Machine Establishment, especially efficient in the manufacture of Singer A and Singer Hand Sewing Machines, wants to meet with buyers, everywhere, who require large quantities. Apply to W.O., 617, care of Messrs. Haasenstons and Vogler, Berlin, S.N.

JOURNAL OF DOMESTIC APPLIANCES

AND

Sewing Machine Gazette.

AT the present moment in the sewing machine trade there is a great dearth of news. The whole particulars concerning this branch of commerce, can be summed up in the two words "steady trade." There are no gigantic law suits enriching the pockets of lawyers at the expense of sewing machine manufacturers.

there are no legal cases of a smaller nature concerning disputes between pawnbrokers or landlords and those who let sewing machines out on hire, failures in the trade are few and small, there are no new machines to describe and few improvements on old ones to chronicle. We are far from believing this to be an unfavourable state of trade. There have been times when we have had to report law cases occupying at least twenty pages of this journal, when not a week and scarcely a day passed without the failure of some one in the trade and when throughout the country nearly every local court of justice was deciding some question or other concerning sewing machines. We are glad that state of things no longer exists, and prefer to publish this journal barren of news than to print in its pages the unpleasant though somewhat exciting records of only a few years back. We cannot manufacture news; we leave that to the editors of the "Dailies" who are just now very proficient in that department. The trade, we think, would not appreciate our efforts in the sea-serpent line, so we must rest content with recording the little plain unsensational news, which after all is the most useful.

From every source of information concerning the trade in bicycles and tricycles, we learn two welcome items of information. Firstly, general trade in 'cycles we are informed is much larger than at the commencement of last year, and secondly, tricycles are now sold in large quantities and bid fair soon to be equal with bicycles in the number sold. A surprisingly rapid demand has set in for these three wheeled steeds, which shows clearly that a great number of less adventuresome riders and middle aged gentlemen have taken to these more safe and substantial mediums of locomotion.

Why do not sewing machine repairers go in for repairing bicycles? There are a few who do it, but not many. We are confident a large and profitable business might be done in this line by the sewing machine mechanic. It would require very little practice to enable him to perform expeditiously some of the lighter jobs required by the 'cyclist. When the spring season sets in there is usually such a great number of machines that require mending (accidents of last season not made good) that those who can undertake that work have very quickly as many machines in their workshops as they can repair in a month or two. A bicyclist considers himself fortunate if he can get a slight repair done in five or six weeks. We recommend all who can to try for this trade, the cost of tools would be but a small outlay and a notice in the shop-window and an advertisement in the local paper would bring all the repairs of the town.

MANUFACTURERS of sewing machines are employing a fair number of hands and are turning out an average quantity. The export orders they receive are much larger than those for home trade, indeed the shipping trade is without any doubt very good. Retailers are experiencing a quiet steady trade, and those who sell on the hire system find it safer business than it was a few years ago. This is of course owing to the many legal cases decided in their favour. The demand for machines for manufacturing purposes is still as great as ever, and those who supply this demand do the most brisk and safe trade.

The number of failures in England and Wales gazetted during the week ending Saturday, Jan. 28th, was 223. The number in the corresponding week of last year was 248, showing a decrease of 25, being a total decrease in 1882, to date, of 112.

OUR ILLUSTRATED SUPPLEMENT.

Represents the Little Wanzler S.R. machine, manufactured by the Wanzler Sewing Machine Company, Lim., Great Portland-street, London, W. The chief improvements upon the old Little Wanzler are the automatic bobbin filler, simple and easy take up, new open-shuttle, loose wheel and the "straight-race" (from which the machine takes its name.

The instructions in black and red as shown in our supplement, are a novelty greatly appreciated by agents and learners, giving in a manner not hitherto attempted almost all the information necessary to enable beginners to work the machine. We are glad to note the Wanzler Co. report trade in a very healthy condition. Their machines are now having a great run, the export department being particularly lively, and as their machines are all better finished than in former years and are all nickel-plated and have had introduced every improvement yet made, we think (the wish is father to the thought) a good season's trade may be anticipated.

A NEW LOOSE PULLEY FOR SEWING MACHINES.

A new attachment, designed to enable the hand wheel of a sewing machine to be easily and cheaply arranged to revolve loosely on its shaft, is now on the market, and is said to be selling well in the West. It is controlled by Mr. J. I. Reynolds, of Kansas City, Mo. The pulley is loosely journaled on a reduced portion at the end of the shaft. The end of the shaft is flush with or extends but slightly beyond the outer face of the hub of the wheel, and upon said end is placed a metal disk, or washer, which is secured thereon by means of a screw that passes axially into the shaft through an opening at the centre of the disk. A pin extends outward from the end of the shaft into an opening that is provided in the disk, locks the latter to the shaft, and causes the parts to rotate together independent of the wheel. Upon its inner face the disk is provided with a circumferential incline, that terminates in a shoulder similar to the tooth of a ratchet wheel, and is engaged by a pawl, which is contained within a recess that is formed in the hub of the wheel, the pawl being arranged to move longitudinally in a line with the shaft, and being held with a yielding pressure outward against the disk by means of a spiral spring, which is placed within the recess, and at its outer end engages with a head or enlargement that is formed upon the pawl near its outer end. If, now, the wheel is rotated in one direction, the pawl will engage with the shoulder or tooth of the disk, and cause the latter and the shaft to revolve in the same direction; but if the wheel is rotated in the opposite direction, the pawl will be pushed rearward by the incline and pass over the shoulder without engagement, such arrangement causing both wheel and shaft to move together in one direction, while, when rotated in an opposite direction, the wheel moves independent of and without disturbing the shaft.

In order that the mechanism may be applied to machines of different construction, in which the driving shafts move in opposite directions, a shoulder or tooth is provided upon each face of the disk, and teeth arranged in opposite directions, while the opening is lengthened radially, so that, to place the mechanism in position, it is only necessary that the wheel be loosened upon its shaft, a round opening drilled for the reception of the pawl and spring, and another opening provided in the end of the shaft for the reception of the dowel pin, all of which can be done by any ordinary mechanic in a few minutes of time.—*Sewing Machine Journal*.

THE SOUTH LONDON MACHINISTS' COMPANY.

The South London Machinists' Company have just made two bicycles the "Nancy Lee" and Nonsuch." They are fitted with Hancock's rubber-tire and pedals. This firm have also brought out a tricycle called the "Flying Scud." It also has an ingenious arrangement for turning, which throws out the one wheel gearing and brings it back when the machine is running straight.



DISSOLUTIONS OF PARTNERSHIPS.

Whalley, Smith, and Paget, Keighley, washing machine makers. December 17. As regards George Whalley.

COUNTY COURT JUDGMENTS.

Buzzacott, John, Church-street, High Bridge, Somerset, ironmonger; £12 4s. 7d. November 16.
 Comfort, Jesse, Hawkhurst, Kent, ironmonger; £23 0s. 1d. November 22.
 Davis, J. W., Newtown, Montgomeryshire, ironmonger; £10 8s. 2d. November 22.
 Gullett, J. B., Old Town-street, Plymouth, ironmonger; £17 14s. 4d. November 19.
 Hanford, Wm., Matlock, Bath, Wirksworth, Derbyshire, ironmonger; £10 0s. 10d. November 22.
 Jordan, J. H., St. Helens, Lancashire, ironmonger, £16 13s. 7d. November 24.
 Lisle, John, Holsworth, near Bideford, Devon, ironmonger; £14 9s. 6d. November 24.
 Murray, George, 13, Leather-lane, Holborn, ironmonger; £16 13s. 9d. November 24.
 Powell, N. E., Croydon, ironmonger; £23 0s. 6d. November 22.
 Powell, N. E., North End, Croydon, ironmonger; £16 6s. 9d. November 24.
 Stremes, G., Old Pump House, Streatham, ironmonger; £12 2s. 11d. November 28.
 Sanderson, W. A., Great Grimsby, Lincolnshire, ironmonger; £19 2s. 2d. December 1.
 Simpson and Simpson, trading as Simpson and Son, Mansfield, Notts, ironmongers; £11 15s. 4d. November 17.
 Smith, John, 36, Clifton-street, Roath, Glamorganshire, ironmonger; £15 10s. 3d. November 28.
 White, George, Christchurch, Hants, ironmonger; £10 4s. 2d. December 10.
 Adams, Chas., Stroud-Green-road, Finsbury-park, ironmonger; £15 1s. 8d. December 7.
 Barrett, Wm., Duke-street, Barrow, Lancashire, ironmonger; £17 1s. 1d. December 16.
 Matthew, Henry, Settle, Yorks, ironmonger; £12 5s. 7d. Dec. 5.
 Portsmouth, Albert, Winchester-road, Basingstoke, Hants, late ironmonger; £16 2s. December 2.
 Roe, J. T., 12, High-street, Wandsworth, ironmonger; £20 13s. 8d. December 1.
 Roe, James Thorne, 1, West-place, Wandsworth, ironmonger; £20 15s. 6d. December 3.
 Roe, James Thorne, 12, High-street, Wandsworth, ironmonger; £10 18s. 9d. December 3.
 Sanderson, W. A., 114, Victoria-street, Great Grimsby, ironmonger; £16 2s. December 2.
 Taylor, Michael, Hexham, Northumberland, ironmonger; £20 7s. 9d. December 16.

LIQUIDATIONS BY ARRANGEMENTS.

Lance, Edmund, Wareham, Dorset, ironmonger's assistant. December 23.
 Shippey, William Cuttriess, trading as William Shippey, 217, Bow-road, general ironmonger. December 13.
 Brown, Walter, Dresden, near Longton, late Longton, ironmonger, December, 28.
 Jewhurst, Richard, Northumberland-road, Margate, ironmonger, December 29.

Matlocks, John, and John Thomas Timms, trading as Timms and Co., East-street, Coventry, bicycle and tricycle manufacturers. December 29.

Matlocks, John, East-street, Coventry, bicycle and tricycle manufacturer (separate creditor). December 30.

Timms, John Thomas, East-street, Coventry, bicycle and tricycle manufacturer (separate creditor). December 30.

Jewhurst, Richard, 45, Northumberland-road, Cliftonville, Margate, ironmonger. January 4.

Pierson, James, Goodramgate, York, and The Rosary, Heworth, sewing machine agent. January 13.

Williams, John, Mold, Flint, ironmonger. January 4.

Peachy, Charles Henry, High-street, Hungerford, sewing machine merchant. January 21.

BILLS OF SALE.

Chambers, Robert, 3, Stourmount-terrace, Lavender-hill, Surrey, ironmonger. (Settlement of furniture upon trusts). In favor of Arthur Elliott and Another. Filed December 20.

Dawson, Wm. Herbert, 5, Lucknow-grove, Greenheys, Manchester, ironmonger; £33, &c. In favor of James Knowles. Filed December 20.

Parker, Thomas, 55, High-street, Gosforth, Northumberland, ironmonger and gasfitter; £13 10s., &c. In favor of Monetary Advance, &c., Co. Filed December 22.

Raison, Henry, 11, 13, and 15, Rochester-row, Westminster, ironmonger; £700 abs. sale. In favor of Alfred Smelhe. Filed December 19.

Clarke, George, 123, Bevan-street, Lowestoft, ironmonger and gasfitter; £54. In favor of Norwich &c., Advance Company. Filed December 30.

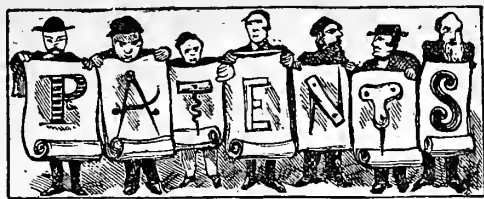
Brasier, Frederick Henry, 92, High-street, Hastings, sewing machine agent; £14 15s., &c. In favor of Sidney Thorpe. Filed January 4.

Harrington, John, 23, Scarsdale-villas, West Kensington, bicycle &c. manufacturer, sett. tr. fr. wf. In favor of Robert T. Haws. Filed January 7.

Cousyans, John William, 169, Commercial-road, Landport, Hants, ironmonger; £57, &c. In favor of William Smith. Filed January 20.

DOMESTIC LABOUR-SAVING APPLIANCES.

* The great strides which have been made in all kinds of domestic labour saving appliances during the last twenty or twenty-five years must make the duties of the household much easier and more pleasant to the house-keepers of to-day than they were to our grandmothers. What an immense improvement for cooking purposes the range of the present day is over the old-fashioned fire-place where the "crane" hung. Instead of a grate fire-place in every room, filling the house with dust and ashes, handsome stoves give much more warmth and save in fuel; or, perhaps, a furnace in the basement heats the entire house, saving both money and work. Since the general introduction of gas, a dozen or so of greasy candlesticks and oil lamps do not have to be cleaned every morning. Stationary tubs, with water ready heated from a boiler close at hand, washing and ringing machines have created a revolution in the laundry department. The manifold articles of household convenience have been greatly improved and simplified, and numbers of novel contrivances, from a patent egg-beater to an automatic self-rocking cradle have been invented. The woman of to-day ought surely to be grateful to the busy brains which have worked so well to make life so easy and pleasant to her. And above all should she be thankful for that crowning effort of mechanical genius in domestic labour-saving appliances which has not only released her from work of a trying nature and been the means of saving her many dollars, but has enabled her to clothe herself and her family better and more handsomely, and, what is so dear to her heart, to keep up more closely with the dictates of fashion—the sewing machine.—*Sewing Machine News.*



The following list has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette," by G. F. REDFERN, Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.

APPLICATIONS FOR LETTERS PATENT:—

- No. 5,394. The Rev. R. H. Berens, of Sidcup, Chislehurst, Kent, for improvements in the mode of driving velocipedes and other vehicles, and in the apparatus employed therefor. Dated December 9, 1881.
- „ 5,424. E. A. Rippingille, of Aston juxta Birmingham, for improvements in gas stoves. Dated December 12, 1881.
- „ 5,459. E. M. Knight, of Manchester, Machinery Agent, for improvements in knife cleaning machines, part of which improvements are applicable to wringing and mangling machines. Dated December 14, 1881.
- „ 5,480. W. R. Lake—a communication from F. H. Chilton, of New York, United States, for improvements in embroidering apparatus for sewing machines. Dated December 14, 1881.
- „ 5,484. A. Lafargue, of Kensington, London, Engineer, for improvements in bicycle and tricycle velocipedes. Dated December 15, 1881.
- „ 5,493. A. Helwig and J. Dewdney, both of Great Winchester-street, London, for improvements in machinery or apparatus for making button holes, in part applicable to other purposes. Dated December 15, 1881.
- „ 5,514. W. P. Thompson—a communication from N. Merrill, of New York, United States, Lawyer, for improved apparatus for driving tricycles; also applicable for driving other vehicles, or the shafts of prime motors. Dated December 16, 1881.
- „ 5,545. J. Graham, of Dundee, North Britain, Engineer, for improvements in Laing's overhead sewing machine. Dated December 19, 1881.
- „ 5,581. N. Wilson, of High Holborn, London, Mechanical Engineer, for improvements in sewing machines. Dated December 20, 1881.
- „ 5,594. B. J. B. Mills—a communication from N. W. Westcott, of Providence, Rhode Island, United States, for improvements in knitting machines or looms. Dated December 21, 1881.
- „ 5,628. L. A. Groth—a communication from G. T. Grosser, of Markersdorf, near Burgstadt, Germany, for improvements in knitting machines. Dated December 23, 1881.
- „ 5,635. F. S. Kendrick, of Balsall Heath, Worcestershire, for certain improvements in lamps applicable to velocipedes and other vehicles. Dated December 23, 1881.
- „ 5,649. W. T. Sugg, of Vincent-street, Westminster, London, Engineer, for improvements in gas burners, and in apparatus to be used in manufacturing the same. Dated December 24, 1881.
- „ 5,653. J. Harrington, of Scarsdale Villas, Kensington, London, for improvements in tricycles and other velocipedes. Dated December 24, 1881.

- No. 5,682. J. White, Manager, and J. Asbury, Machinist, both of Coventry, Warwickshire, for improvements in velocipedes. Dated December 27, 1881.
- „ 5,709. H. J. Haddan—a communication from W. Tillmanns, of Remscheid, Germany, for improvements in skates. Dated December 29, 1881.
- „ 36. W. R. Lake—a communication from the Rotary Shuttle Sewing Machine Company, of Foxborough, Massachusetts, United States, for improvements in sewing machines. Dated January 3, 1882.
- „ 46. W. Haughton, of the Middle Temple, London, Barrister-in-Law, for improvements in open fireplaces or grates, and in fittings for the same. Dated January 4, 1882.
- „ 92. F. C. Glaser—a communication from G. Knake, of Munster, Westphalia, Germany, for improvements in pianofortes. Dated January 7, 1882.
- „ 98. W. Dawes, of Kingston Grove, Leeds, Engineer, for improvements in tricycles and other mammoth vehicles. Dated January 7, 1882.
- „ 99. M. D. Rucker, jun., of Letchfords-buildings, Bethnal Green, London, for improvements in velocipedes, parts of which are applicable to other purposes. Dated January 7, 1882.
- „ 114. J. E. Richard, of New York, United States, Machinist, for improvements in over-stitching machines. Dated January 9, 1882.
- „ 116. E. M. Knight, of Manchester, Machinery Agent, for improvements in knife cleaning machines, part of which improvements are applicable to wringing and mangling machines. Dated January 9, 1882.
- „ 136. J. A. Slater, and M. M. Brophy, both of 251, High Holborn, London, Engineers, for improvements in gas or gas and air cooking apparatus. Dated January 10, 1882.
- „ 141. C. W. Francis, of Chancery-lane, London, for improvements in bicycles. Dated January 11, 1882.
- „ 153. W. R. Lake—a communication from Messrs. E. Thimonnier, fils, and Vernay, of Paris, for improvements in sewing machines, and in needles therefor. Dated January 11, 1882.
- „ 163. H. J. Haddan—a communication from H. Wirths and Sohn, both of Remscheid, Germany, for improvements in skates. Dated January 12, 1882.

Letters Patent have been issued for the following:—

- No. 2,532. H. J. Haddan—a communication from C. W. Oldroive, of Massachusetts, United States, for improvements in tricycles. Dated June 14, 1881.
- „ 2,612. A. L. Bricknell, of Water-lane, Brixton, London, Engineer, for improvements in velocipedes. Dated June 16, 1881.
- „ 2,663. L. A. Groth—a communication from J. Levi, of New York, United States, for a new or improved construction of safety pins. Dated June 18, 1881.
- „ 2,812. T. J. Deme, of Holmesdale Lodge, Red Hill, Surrey, for improvements in sewing machines for ordinary and button-hole stitching. Dated June 27, 1881.
- „ 2,832. F. A. K. Cook, of Londonderry, Ireland, for improvements in laundry irons. Dated June 23, 1881.
- „ 2,903. G. B. Lovedee, of Birmingham, Manufacturer, for improvements in perambulators, and in perambulator and other wheels having metal spokes, and in grips for adjusting such spokes. Dated July 4, 1881.
- „ 3,043. G. J. T. Barrett, of 14, Gray's Inn-square, London, Solicitor, for improvements in bicycles and tricycles, and a method of converting bicycles into tricycles. Dated July 12, 1881.

- No. 3,497. J. M. Laboissière and C. L. Daujon, of Paris, Manufacturers, for improvements in pianos. Dated August 12, 1881.
- „ 3,968. F. T. Bond, of Gloucester, Doctor of Medicine, for improved appliances for heating water for domestic and other purposes, including an improved gas burner, which is also available for other heating purposes. Dated September 14, 1881.
- „ 3,970. G. Asher, of Birmingham, Designer and Pattern Maker, for an improvement relating to perambulators and similar vehicles applicable also to other useful purposes. Dated September 14, 1881.
- „ 4,023. R. H. Brandon—a communication from the Morley Sewing Machine Company, of Holyoke, Massachusetts, United States, for improvements in the method of stitching lapped and butted seams, and of stitching shank buttons on to fabrics. Dated September 19, 1881.
- „ 4,330. W. R. Lake—a communication from S. Peberdy, of Philadelphia, Pennsylvania, United States, for improvements in the manufacture of knitting machine needles. Dated October 5, 1881.
- „ 4,686. J. Imray—a communication from O. Viett, of Hamburg, Germany, for improvements in machinery for the manufacture of looped or knitted fabrics. Dated October 26, 1881.

PATENTS WHICH HAVE BECOME VOID:—

- No. 5,100. W. J. Ford, of Friar's Causeway, Leicester, and of Humberstone, Leicestershire, Manufacturer of Hosiery, for improvements in circular knitting machines, to enable shaped hosiery to be made. Dated December 12, 1878.
- „ 5,103. W. R. Lake—a communication from the Howe Machine Company (Incorporated), of New York, United States, for improvements in sewing machines and in shuttles therefor. Dated December 12, 1878.
- „ 5,231. W. Wolff, of Ichtershausen, near Erfurt, Germany, for improvements in instruments for threading needles. Dated December 20, 1878.
- „ 5,234. J. S. Lawson, of Barnsley, Yorkshire, Clerk in Holy Orders, for improvements in the construction of gas stoves. Dated December 21, 1878.
- „ 5,288. C. Kessler—a communication from E. Westermayer, of Berlin, for improvements in pianoforte actions. Dated December 27, 1878.
- „ 5,304. J. Windle and P. D. Davey, both of Liverpool, for improvements in and relating to machines for washing, wringing, and mangling clothes and other articles. Dated December 28, 1878.
- „ 4,256. G. Eyre, of Cadnor, Derbyshire, for improvements in apparatus for warming and ventilating. Dated December 10, 1874.
- „ 4,396. N. Wilson, of High Holborn, London, Sewing Machine Manufacturer, for improvements in sewing machines and in appliances to be attached thereto and used therewith. Dated December 21, 1874.
- „ 4,426. A. M. Clark—a communication from H. M. Jenkins and H. Baylis, both of New York, United States, for improvements in needles. Dated December 23, 1874.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1d. each extra.

	s.	d.
No. 1,864. J. E. Hatch, velocipede or monocycle ...	0	6
„ 1,975. G. W. Hinchley, metallic cases or boxes for needles, &c. ...	0	2
„ 1,982. T. McCracken, smoothing irons ...	0	6
„ 2,049. G. M. E. Jones, velocipede... ..	0	4

No. 2,057. J. M. Richards, magnetic comb ...	0	2
„ 2,060. A. M. Clark, window cleaning chair, &c....	0	6
„ 2,064. S. H. Saxby, driving gear of tricycles, &c. ...	0	2
„ 2,145. W. R. Lake, wax thread sewing machines ...	0	6
„ 2,146. W. R. Lake, wax thread sewing machines ...	0	6
„ 2,153. J. Sawyer, register stoves, &c. ...	0	2
„ 2,161. A. Burdess, driving mechanism for tricycles ...	0	2
„ 2,164. W. R. Lake, roller skates ...	0	2
„ 2,183. C. Pieper, lock-stitch sewing machines ...	0	6
„ 2,202. E. Marshall, bicycles, &c. ...	0	6
„ 2,208. W. H. Davey and H. Fabian, apparatus for ironing ...	0	4
„ 2,216. J. Imray, sewing machines... ..	0	6
„ 2,258. H. J. Haddan, tricycles ...	0	6
„ 2,277. D. M. Smyth, sewing books and other articles, &c. ...	0	10
„ 2,281. J. E. Ellison and H. Fourness, ventilators ...	0	4
„ 2,301. O. F. Viola, skirts of ladies' dresses for bicycle riding, &c. ...	0	2
„ 2,315. B. F. Shaw, knitting machines ...	0	2
„ 2,366. F. H. F. Engel, covers for sewing machines ...	0	6
„ 2,390. W. R. Lake, pianofortes ...	0	6
„ 2,424. G. F. Elder, overhead sewing machines ..	0	6
„ 2,428. J. Hargrave, machinery for cleaning and polishing knives ...	0	6
„ 2,432. T. G. Wells, perambulators ...	0	4
„ 2,546. H. J. Haddan, sewing machine gearing ...	0	6
„ 2,565. E. J. Lewis, tricycles, &c. ...	0	6
„ 3,422. F. L. Mitchell, pianoforte actions ...	0	10
„ 3,826. F. L. and M. A. Dietz, dust pans... ..	0	4
„ 3,876. W. R. Lake, sewing machines for manufacture of boots, shoes, &c. ...	0	6

TRANSPARENT LEATHER.—Messrs. L. Starck and Co., of Mayence, have patented a new process for manufacturing transparent leather. Common skins are deprived of the hair, cleaned, and spread on frames, and are rubbed with a mixture containing 100 parts glycerine 20°B., 0·2 parts salicylic acid, 0·2 parts picric acid, and 2½ parts boric acid. Before the skins are perfectly dry they are brought into a room from which sunlight is excluded, where they are impregnated with a diluted solution of bichromate of potash, and then dried. The skins are then covered with a diluted solution of shellac in alcohol of high degree. The transparent leather is said to be well adapted for manufacturing such objects as must possess great strength with small dimensions, as thread for sewing leather, small belts for tools, looms, sewing machines, &c. The co-efficient of strength of this transparent leather is said to be three times greater than that of other leather. Its price is higher for the same weight but lower for the same dimensions.

RUST PREVENTION.—Our readers will be familiar with the fact that a mixture of powdered lime and tallow is a much better preservative for the polished surfaces of ironwork than the more expensive and commonly used compound of white lead and tallow. A correspondent writing to a transatlantic contemporary says in reference to this:—“When I served my time we used to slack a piece of quick-lime with just water enough to cause it to crumble, in a covered pot, and while hot add tallow to it and work into a paste, and use this to cover over bright work. This can be easily wiped off, without the man who wipes it saying bad words; but your mixture of white lead and tallow is a fearful mess to get off once it is put on. Lime and tallow was the original mixture used, and somebody, not knowing what it was, thought because opaque it was white lead, and hence the mistake. Everything tends rather to go wrong than right, and villainous white lead and tallow has come to supersede the original lime and tallow.” According to the report of the New Jersey Bureau of Labour and Industries, the average machinist in that State earns £162 5s., and spends £136 8s. yearly, saving £25 17s., while the average saving of all working men is £9.

HINTS ON EVIDENCE.

In looking over Mr. F. Wetherfield's "Commercial Law Annual, for 1882" (W. Cate), which we noticed recently as a cheap and useful handy book for men of business, we find amongst its varied chapters one of "Hints on Evidence" that is full of suggestive matter. To many people the rules of evidence are quite incomprehensible, and even to those men of business who sit upon juries they are but a maze and a mystery. When one counsel objects to another's questions as "leading" or "irrelevant," or declares that such and such a fact cannot be received in evidence, and the Judge tries calmly to control the storm, the jury only wonder what all the wordy warfare is about, and do their best to give a right verdict on the evidence they are allowed to hear and are enabled to understand. Yet in their elements these rules of evidence are the simplest principles of common sense, though their origin is often lost sight of in the technical terms with which they are surrounded. Day by day our legal system is becoming more and more simplified, and before long the practice of our courts will be comprehensible to the average intellects of ordinary men. In truth, there are one or two principles which, when thoroughly grasped, give the key to the whole apparent puzzle, and it is upon these that a few remarks may be worth noting. Traders have nowadays very often to do their own law; and even when they do not act for themselves in courts of justice, a knowledge in outline of what must be proved to make out the simplest cause of action cannot but be useful now and then.

The plaintiff must make out his case. That is a leading maxim from which flow many points of detail. No defendant can be called upon to answer until the plaintiff has established a *prima facie* case, but, in so doing, a plaintiff can of course use any admissions made by a defendant. Then, again, it is a vital principle of our law and procedure that only the best evidence will be received that is obtainable. It follows from this that no copy of a document can be produced unless and until the absence of the original is accounted for and explained. Supposing a party wishes to use in court a letter which he has written to his opponent, but of which he has kept a copy, what is necessary to be done? This question crops up daily in our courts, although it is easily answered. As already stated, no copy can be used while the original exists, except where it is shown that the original cannot be obtained. The party wishing for its production in court must, therefore, give the other notice to produce it at the hearing. If he does so, of course all will be well; if he does not, then upon proof that the notice was duly served, and that the copy is correct, that copy will be allowed to rank as evidence in place of the original. Supposing, again, that an important document has been lost or destroyed, but a copy exists, then this can be used only upon plain proof of that loss or destruction. There are no degrees in what is called secondary evidence, so that if an original is not obtainable, a copy and a verbal description of its contents are of equal value, though, of course a copy is preferable, owing to its great certainty.

It may seem needless and absurd to lay it down as a rule that writings do not prove themselves, and that entries in a creditor's books or account cannot be used as evidence against his debtor. Yet we have seen even these simple matters overlooked by men of business gone astray in a court of justice. It is not uncommon for a plaintiff to produce a letter purporting to be from his defendant promising payment, and become quite indignant if he is asked whether he knows that person's handwriting. Clearly there are many who think that writings prove themselves, or else traders would not triumphantly produce a signature upon the carrier's way-bill as proof of delivery, without a ray of evidence to show by whom that signature was written. Then again as to books. We have often seen plaintiffs bring out their big ledgers, and point to their debtor's account therein as manifest and conclusive evidence of their indebtedness for the sum set down. Yet surely it is clear that, inasmuch as a creditor can enter what he likes in his books against his debtors, they can of themselves prove nothing. A trader suing in court should, however, always have his books with him, for several reasons. It is true they will not speak for them-

selves, but the clerk or master who made the entries may look at them, as it is called, "to refresh his memory," while giving his evidence of the facts they represent. They are thus very useful, and in County Courts especially, where rules are more relaxed, they are often looked at by the judge himself. It must, moreover, be remembered that though the plaintiff cannot, strictly speaking, use the books, the defendant can call for their production; and if he does, then the entries they contain will become legal evidence against himself to some extent. Where a dispute arises upon the question to whom was credit originally given by a plaintiff, it is obvious that the account, as opened in his book, may become of the very first importance.

Speaking broadly, hearsay evidence, or what one person told another, can never be received. It is therefore necessary, in proving that an order was given, to call as a witness the person to whom it was given. Thus a traveller who sold goods may often have to be called to make out the case, and any letter he may have sent up to town, or any person to whom he may have told the order, would be of no avail. In suing for goods sold and delivered, and should there be no admission, both the sale and delivery must be proved; and for this purpose the man who went with the goods to the defendant's place may have to be produced, though a witness who could swear to having seen them upon his premises would be sufficient. A very common ground of action is what is legally known as "an account stated," by which is meant that the defendant has admitted owing a distinct sum, and has promised payment either specifically or by inference. But there can be no such thing as an account stated as long as the defendant disputes the amount, or the actual sum due is undecided. If, however, a creditor has written or asked for a stated sum, and the debtor has promised to send it, there is a clear cause of action, upon which the plaintiff would succeed without further proof and without going into the origin of the debt. The same rules of evidence apply equally to the other side of the question. A defendant also must make out his own case where the ground of his defence is something special. For instance, if he pleads payment, the onus is upon him to prove that fact, in the same way as it is *prima facie* upon a plaintiff to substantiate his claim. Should a defendant rely upon a set-off, he is placed in the same position, and must support his case by the same sort of evidence as he would have needed had he sued himself for the demand he seeks to set off against the claim of his creditor. So also with every form of special defence, and where the plaintiff's case is admitted it is for the defendant to begin and proceed to show why it should be overruled by his own.—*Warchouseman and Draper.*

BUY NG A BUSINESS.

Just at this season of the year a good many businesses change hands; and in view of what has too often happened of late, it may be as well if we direct attention to one or two points worthy of being noted by those who are about to buy a shop and goodwill. As in all other transactions, so here, the seller needs no warning; and it is the buyer that should beware. The valuation of stock and goodwill is no part of our present concern, which relates rather to the legal aspects of the matter. Presuming that a lease of the premises is to be sold with the goodwill—and certainly a shop without any lease would be of little value—the various covenants and conditions of that lease should be investigated. If they are complex or unusual, it may be as well to take professional advice before harm is done that could easily be avoided. In the first place, it must be seen that the lease is legally subsisting—that there has been no breach of covenant causing forfeiture. Strange as it may seem, yet so careless are many people, that a lease may be actually assigned and paid for before the unlucky purchaser finds out that according to the terms of the lease itself such an assignment is void without having first obtained the landlord's license. Thus there is a point to be borne in mind; and if such a license has to be got the purchaser should insist upon its being done at the vendor's expense, as fees are usually payable to the landlord's solicitors upon every assignment. With regard to other covenants

such as that to repair, the best evidence a purchaser can have that they have been complied with is the last receipt for ground rent due, because a landlord who receives rent after any breach causing forfeiture will be held to have waived that breach by so doing.

Another point of great moment to the purchaser of a business is as to any covenant the lease may contain with regard to using the premises for carrying on other trades. So many drapers now-a-days add other branches of business to their own that it has become quite a common custom. It is not at all unusual for a lease to specify the particular trade which can alone be carried on upon the premises demised, this being done when the estate was first laid down for building, so that each trade should have a fair chance in the new neighbourhood, and be without close competition. If the lease contains such a covenant, it may obviously be very awkward for a pushing purchaser who is desirous of doing a big business in various departments. The buyer must therefore look into all these things before going too far, and if he wishes to enlarge the scope of his transactions he should see that the consent of the landlord can be obtained. The purchaser will, of course, have a proper legal and binding agreement selling the business, goodwill, book debts, and trade name, if there be one, as if he leaves the matter to an informal understanding, difficulty, if not loss and unpleasantness, is sure to arise. In this agreement the vendor should covenant that he will not set up in the same or any similar trade or business within a certain radius of miles specified, and that he will not in any way solicit his former customers. Such covenants as these are perfectly legal, and can be enforced by action or injunction if broken afterwards.

Besides promising not to solicit his former customers, the vendor should bind himself to recommend customers, if under the circumstances he is likely to have any opportunities so to do. This also might be enforced if necessary. But the more usual form is only to covenant that he will not open a shop within the same town, or within a fixed limit from the premises sold. By law, all agreements in general restraint of trade are void; but those in partial restraint are valid, especially when they are supported by a valuable consideration, as of course happens upon every sale of a business. So also with regard to the use of a trade name. The vendor must contract that he will not carry on business under that name anywhere, and such a contract will be perfectly valid and binding. Sometimes difficulties arise in deciding what is a trade name, but these must be dealt with as they occur; but, at all events, the vendor of a business can assign to the purchaser along with the goodwill the exclusive right of carrying on business under the name he has had over his shop, and has been using for trade purposes, whether it is or is not his own real name. As to the book debts, these are now absolutely assignable, so that the assignee can sue for and recover them in his own name and right. Formerly, all such debts must have been sued for in the name of the person with whom they were originally contracted, but by a recent statute this has been altered. In order, however, to enable an assignee of debts to recover them in a court of law, he will first have to prove that he has given written notice of the assignment to the debtors. This being so, it is as well for purchasers to send that notice at once, and before it is forgotten.

Lawsuits are very common in which buyers seek to recover back the money they have paid for a business, on the ground that its value had been exaggerated, and that false representations were made by the vendor at the time of sale. But a purchaser must not suppose that every statement made to him, and which is not true affords him a ground of action should things turn out badly afterwards. Mere puffing is nothing, and if a buyer examines into things for himself, and looks over the books, then he can hardly say that he bought in the faith of representations made by the vendor. Still, if a man who is about to sell his business does make statements as to its value, and as to the amount of his takings, upon which the buyer acts, and which turn out to be wholly false, this will form a ground of action upon which the purchaser could recover back the money he had paid. Buyers

must, however, remember that the legal maxim applicable to all such cases is "Caveat emptor," and that mere negligence in not inquiring before purchase can give no ground of action. Should a vendor break his engagement by setting up in business within the prohibited distance, or using the trade name he has assigned, the best course for the purchaser to pursue is to apply to the High Court for an injunction to restrain him from so doing. Formerly, this could only be granted in Chancery, but now every court has the same jurisdiction, and an injunction will be granted whenever from the nature of the case it is the only fitting remedy.

A NEW MOTOR FOR THE SEWING MACHINE.

A new motor which bids fair to revolutionize our domestic economy is now being exhibited in Indianapolis, and will shortly be put upon the market. The inventor is William A. Silvey, a young man of about 25 years of age. He is in appearance and action a raw country boy. Raised in Lawrence Township, Marion County, Indiana, he received an ordinary English education. His reading and penchant led him to investigate philosophy, and especially electricity. In order to study the subject better, he took employment at Gillilan's telephone factory, in Indianapolis. After working there about a year he retired to his mother's farm, near Castleton, about ten miles north of Indianapolis. There, in the intervals allowed by his duties on the farm, he has experimented and studied until he has mastered several important problems of this dawning science of electricity. His shop and laboratory was a rickety old barn, and his tools of the crudest description; but he has overcome all these difficulties by hard work. Some months ago he was found in his workshop by a party of gentlemen, to whom he exhibited some of his inventions. A company was formed, and he has been furnished with a comfortable shop in the city, where he can prosecute his labours to advantage.

Mr. Silvey has already obtained patents on two improved telegraph instruments that promise to be very valuable and useful. One, a magneto telegraph, obviates the necessity of the expensive and cumbersome batteries by the use of a permanent magnet. The other utilizes an induction current, and makes, it is thought, an instrument much superior to any now in use.

But the most important of his inventions is the electric motor. The principle is armatures revolving between two new magnets. The current is alternately reversed in each magnet, and while one attracts the other repels the armatures. The motor occupies but a small space under a sewing machine, which it runs with perfect ease. Being compact, neat, and easily handled, these machines will be of inestimable value in relieving mankind and womankind of the labour of propelling sewing machines, dentists' drills, lathes, and light machinery of all kinds. They can be manufactured at small cost, and will be of trifling expense to maintain in running order. All who have seen the machine work are delighted with it, and already inquiries are being made by purchasers. The inventor will not allow them to be sold as yet, however, for he desires to make some improvements on the machine which will increase its power and compactness.

AUSTRALIAN AND NEW ZEALAND TARIFF.

SEWING MACHINES AND SEWING MACHINE NEEDLES to Victoria, New South Wales, Queensland, South Australia, Western Australia, New Zealand, Tasmania.—Duty free.

IRON BEDSTEADS to Victoria, 25 per cent.; New South Wales, free; Queensland, 5 per cent.; South Australia, 10 per cent.; New Zealand, 15 per cent.

GAS STOVES to Victoria, 25 per cent.

STOVES to Victoria, 25 per cent.; South Australia, 25 per cent.

MACHINERY to Victoria, 25 per cent.; Queensland, free; South Australia, 5 per cent.; Western Australia, 10 per cent.; New Zealand, 15 per cent.; Tasmania, 5 per cent.

THE SEWING MACHINE TRADE IN DUTCH INDIA.

H.E.H., in *La Machine à Coudre*, writes:—The trade in sewing machines, like that in so many other articles, is as yet in its infancy here. More than anything the climate is not favourable to any machine that must be moved either by hand or by foot. A machine turned by a mechanical motor would be a blessing for that country, of course this may not be a steam or a gas-motor.

In India the female sex that have come from Europe, do not exert themselves in the least, and display European dressings only at balls and on reception-days. By day they seldom take a drive, and when they do, they wear a very simple morning gown, the Indian Kabaya.

Under these circumstances it is obvious that the sewing machine cannot hold the place in India, which it may justly claim in Europe, the more so because the handicraft of the Chinese is very cheap. As to the clothing of the natives inhabiting the coasts, it is limited to a minimum, while the inland population are scantily covered by the Sarong. The want of dress is consequently very small, and yet the trade in sewing machines has made great progress lately. Orders of 200 or 300 pieces at a time are not seldom; nevertheless these orders given by the Chinese dealers are of secondary interest to the importer, because they are not at all rated after the number of the population, Java alone having more than 18 millions of inhabitants; other articles deserve his more particular attention. A great impediment to the trade in sewing machines, is that the people cannot get practical instruction.

A sewing machine is not like a portemonnaie or a lamp, but like a watch; therefore the retailer should not only be able to give the necessary instruction in sewing with a machine, but he should also know how to repair little defects. But of all this nothing is found in India; for the Chinese workman is very clever in copying, imitating, but he does not understand how to construct or to make a fit alteration, if anything obstructs the regular run of the mechanism; he does not like to meddle with it and charges 10f. for the least repair.

The importer, who deals only with great Chinese tokos, furnishes a number of sewing machines with the same indifference as a parcel of cheese, and does not in the least care about the construction of the machines. No better is the Chinese, who keeps a great toko and sells to retailers; the latter, however, is the last person, that could teach the management of the machine.

I think manufacturers who would like to do business in India, must take into consideration the following points:

1. Furnish a machine finished off minutely, the parts and attachments of which are carefully adjusted, in order to prevent trouble as much as possible.

2. Take care that the machine be quite ready to begin sewing.

3. Add to every machine a dozen good needles, fine, not higher than from No. 9 to 12; but by all means avoid giving bad needles like it has been a custom hitherto. That small sacrifice will procure your machine a good name.

4. Provide it with an instruction book written in easy Malay, which is the language generally understood in India; the natives, the Europeans, and the Chinese read and speak it. This instruction may be illustrated not by microscopical prints, but by distinct, large, and true copies, so that the raw native, who knows nothing about machines, may be able to learn how to manage the machine. Keep in mind that the latter cannot ask advice from his neighbour or from the dealer like in Europe; the least obstacle he meets he considers the machine a nuisance and puts it into the lumber-room. But too often the instruction books pre-supposes the reader to know or at least to have seen a machine.

5. Preferred are Saxonia or Singer model on iron stands. It is also advisable to be rather particular about Indian taste as to the outward polish. We may recommend a light red or green varnish with flowers, birds &c. painted on it. The Javanese do not like dark colours like black or bronze.

The machines should always be prepared for export, i.e., the polished parts must be greased with some oil which can be easily removed. It is not, however, recommended to take a complicated system or to choose plated wheels, because they rust.

AMERICAN HIRE AGREEMENT.

The following is given by *The American Art Journal* as a model contract. We reproduce it as a matter of curiosity, although, as the English and American law differs, it will be of no practical use to the English trade.

We have already published a proper form of English hire contract, drawn (when he was a counsel) by the present Lord Chief Justice of England, and settled by the late Solicitor-General.

The following is the American hire agreement to which we have alluded:—

THIS IS TO CERTIFY, that
have hired and taken from

No. ^a ^{made by} ^{, for which}
agree to pay the said sum of

per ^{in advance, at}
and ^{for charges o}
delivery, and return the same to

keeping it in good order at ^{expense. The}
hiring to continue till ^{notify him to remove it.}

^{also agree, that if the said}
by fire or otherwise be partially or wholly destroyed, to pay the
amount of damage sustained thereby. ^{further agree}
to keep the said ^{fully insured against loss or damage}
by fire, in a solvent insurance company, and ^{will retain}
the said ^{for} ^{own use; and that} ^{will not}
underlet it for any purpose whatever, nor shall it be removed from
residence, No.

except on account of danger from the elements, without the written
permission of ^{and that the said} ^{be}
at liberty to remove said ^{at any time, provided}
moneys paid for time not yet expired (if any) be refunded. No
agreement of sale of ^{is implied hereby; nor shall}
a sale or purchase of it be deemed valid without a written receipt
from said

IN WITNESS WHEREOF ^{have hereunto}
set ^{hand} ^{this}
day of ^{, A.D. 188 .}

Signature
Place of business

WITNESS

In consideration of the sum of ^{to me in hand paid,}
I hereby agree to become responsible for the above contract.

A NEW SEWING MACHINE MOTOR.

Messrs. Cass and Smith, Blanchester, O., expect to have their new motor ready for market in a short time. This motor consists of an entire new sewing machine stand with a seat attached to a moveable framework upon which the table is fastened. Near the bottom of the framework is a lever by which the machine is stopped by pressing down with the feet, and at the same time it raises the frame, the table and the operator, a height of about three inches, thereby renewing the power. By letting up said lever the combined weight of the frame, the head and the operator is thrown upon the gearing which drives the balance wheel, which latter is connected with the head by a belt in the usual manner. The gearing is all inclosed in a small box under the end of table. The machine will sew from four to five yards between stops, but may be stopped at any point desired. The weight of the operator is the motive power and the necessary stops in the sewing gives a continual renewal of the power. Any machine head may be used on this stand by cutting out the table to suit. Its proprietors claim that it renders the use of a sewing machine a healthful pleasure instead of an injurious labor.

ABSTRACT OF SPECIFICATIONS.

(So far as they refer to Domestic Appliances.)

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SEWING MACHINES, &c.

2546. Sewing Machine Gearing: H. J. Haddan, London. (M. I. Lecœur, Darnetal, France). 6d. 3 Figs.—Is for an arrangement by which the speed of a machine can be varied, and consists substantially in a friction disc, which is driven at a uniform speed, but gives fast or slow motion to a friction wheel according as it is moved further from or nearer to the centre of the disc. The wheel is kept pressed against the surface of the disc, and its spindle transmits the variable motion required. June 11, 1881.

2424. Overhead Sewing Machines: G. F. Elder, Forfar, N.B. 6d. 4 Figs.—The invention is for the method of driving the spiral needle of an overhead sewing machine, and consists chiefly in placing one roller inside the needle, and another one on the outside, the frictional contact of the rollers causing the spiral needle to be revolved. The inner roller bears on all the coils of the needle, but the outer roller bears upon little more than the first coil only, so that the remainder of the coils are free to move elastically through a slight distance to accommodate themselves to the work. June 2, 1881.

3876. Sewing Machines for Manufacture of Boots and Shoes, &c.: W. R. Lake, London. (J. B. Anthony, Providence, U.S.A.). 6d. 9 Figs.—Relates to the means of completing the stitch, to the mechanism for controlling the main or spool thread during the formation of a stitch, and to means for locating the position of the lock of the threads in the goods. September 7, 1881.

2366. Covers for Sewing Machines: F. H. F. Engel, Hamburg. (Guhl and Harbeck, Hamburg). 6d. 2 Figs.—The covers are made of sheet metal and are retained by spring catches which engage with the footplate of the machine. May 30, 1881.

4383. Knitting Machines: H. J. Haddan, London. (Universal Knitting Machine Company, Limited, Toronto, Canada). 6d. 14 Figs.—Has relation to improvements in vertical cylindrical knitting machines constructed with a ribbon attachment, which consists of a stationary cone-shaped needle dial, supported centrally above the machine cylinder. The improvements are (1) an eccentric parallel motion for regulating the stitch. (2) An automatic reversible sliding cam for opening and closing the raceway of the needles in the centre throat. (3) A latch for securing the gate in position, and for putting in and taking out the needles from the cylinder. (4) A spring for securing the regulator in position. (5) An improved hinged feed post constructed to fold backward to allow a stationary fender to be placed in position for ribbing. (6) A right and left eccentric cam for lengthening and shortening the stitch. (7) A stationary fender attached to the dial cap of the ribbon attachment, so constructed that it is not requisite to take it off at the termination of the ribbon of the article. (8) A folded bracket arm or dial post, constructed with two arms which slide into two sockets in a bracket attached to the cam cylinder, to support the cone-shaped needle dial and dial cap, and a spool carrier. (9) A spool carrier to set into the dial post. (10) An improved combined yarn fender and feed for up and down strips. October 7, 1881.

STOVES, GRATES, AND HEATING APPLIANCES, &c.

1327. Magazine Heating Stove with Flues for Circulation of Air and Ventilation: T. Morgan, London. (O. Elterich Nuremberg, Bavaria). 6d. 20 Figs.—Relates to a portable magazine stove with flues for circulation of air, &c. Claims the arrangement of the fire-place, with an outer shell of suitable form to allow of circulation of air, also two grates, one having a vibratory motion upon the other, for varying the opening between the grate bars, the arrangement of the flues, construction of firepot, and of an outer shell which can expand and contract, &c. March 24, 1881.

1449. Firegrates, Stoves, &c.: A. MacPhail, London. 6d. 6 Figs.—Claims (1) preventing down draught by forming the chimney at the back of the fuel box, and causing the products of combustion to enter the chimney by an indirect course; (2) causing smoke to be consumed by mingling it with hot air and flames in a chamber behind the fuel box; (3) arranging the fuel box to extend forward and with chimney behind instead of over the top, &c. April 2, 1881.

1507. Apparatus for Cooking and Dishing up Meat &c.: J. Hall, London. 2d.—A perforated slab with a flange at bottom, and with handles. The edible is placed on the slab, which is then placed in the cooking vessel, wherein is a little water, in the steam of which the food is cooked. The slab is then removed from the vessel and placed on the dish to be served. April 6, 1881.

1509. Water Heaters and Fuel Economisers: H. Schofield, Stanington, Yorks. 6d. 2 Figs.—The heater approximates in shape to the end of an ordinary steam boiler, and when in position two of its surfaces form a part of the sides of the flue leading to the chimney, the heat from the boiler fire impinging upon the heater. The heater may have circulating tubes. April 6, 1881.

2131. Petroleum or Hydrocarbon Cooking and Heating Stoves: F. H. F. Engel, Hamburg. (H. Kock, Hamburg). 6d. 5 Figs.—The improvements apply to the wick holder, wick guide, burner, and to details of the construction of the outer casing of the stove. The wick holder is lined with tin-plate to render it smooth for working up and down the wick; the wick guide consists of a pair of rollers connected by gearing; the burner is provided with a turnable cap used for partially or wholly extinguishing the flame. May 16, 1881.

2135. Heating Apparatus: R. H. Abrey, Highbury, Middlesex. 2d.—The apparatus is for horticultural purposes. The products of combustion are led through a flue surrounded by a pipe which conveys water to the boiler, so that the heat from the products may be utilised. May 17, 1881.

2149. Fireplaces, &c.: T. F. Shingleton, Belfast. 6d. 8 Figs.—The fuel receptacle has a door with an overhanging lip at the bottom for retaining the smoke in proximity to the fire until consumed. A rocking bar is placed beneath the flue-place, which operates a pusher for feeding the fuel upward and forwards to the front of the grate. The fire is lighted in front of the grate, and the smoke and gas have to pass through the incandescent fuel, and are retained in contact by the overhanging lip referred to. May 17, 1881.

2153. Register Stoves: J. Sawyer, London. 2d.—Consists in the application of a combustion box at the back of the stove and provided with a slide door, flue opening, and descending pipe, by which arrangement it is conducted through and over the fire, and the products are conveyed to the bottom of the combustion box, where they are consumed. May 17, 1881.

2249. Apparatus for Heating Dwelling Houses, Hospitals, &c.: C. L. Friedlander. (Jönköping, Sweden). 6d. 8 Figs.—A cast iron furnace is placed with a brick chamber through which air is made to circulate. The products of combustion rise up the body of the furnace, descend through tubes into a smoke box, and ascend another set of tubes to the chimney. The cold air enters the chamber at the bottom and after passing upwards through the tubes is emitted from the top into a system of distributing tubes. May 24, 1881.

2276. Kitchen Ranges: J. M. I. Shaw, Glasgow. 6d. 8 Figs.—Relates, among other things, to the formation of a flue under and behind the boiler with portable slabs carried by ranges, and to the combination therewith of a plate in front of the boiler to close the flue, a cool space being left between it and the boiler. May 24, 1881.

1466. Apparatus for Lighting Fires: J. Sainty, Wisbeach, Cambs. 2d.—Describes a portable lamp with a blowing apparatus to direct the flame as required. Relates also to cooking vessels to be used with such apparatus. April 4, 1881.

1456. Automatic Fire Extinguisher: W. H. Beck, London. (L. C. Blon and J. Kratzenstein, Paris). 6d.—Is for a simple arrangement of such apparatus and principally for an arrangement of bottle for containing the acid, and a piercer or apparatus for readily breaking or opening the bottle. April 2, 1881.

2139. Lamp Burners : T. Rowatt, Kew. 2d.—Two deflecting cones are used to direct the air against the flame near the root, and a third cone for directing the air higher up the flame, the object being to increase the combustion and light. May 17, 1881.

2287. Lamps : H. E. Preen, Kidderminster. 2d.—The lamp has three flat wicks, which radiate at an equal distance apart from a common centre, the wicks forming with each other angles of 120 deg., so that none of the direct rays of light are intercepted. May 25, 1881.

1302. Grates and Stoves for Burning Anthracite Coal, &c. : T. Parker, Coalbrookdale, Shropshire. 2d.—The back, sides, and lower portion of the fire basket are made of fireclay, and have openings for the admittance of air, the supply of which is controlled by a rising slide. March 23, 1881.

1690. Apparatus for Heating and Ventilating Turkish Baths, &c. : W. G. and J. Sloane, Dublin. 2d.—A rectangular chamber with an arched roof has at one end a furnace. Air is admitted between the outside of the chamber and a casing. The contact of the air with the heated surface of a chamber raises its temperature, and the heated air is conveyed by pipes to the place where it is to be used. April 19, 1881.

1665. Combined Air and Gas Burners : J. Lewis, Stepney. 6d. 2 Figs.—Consists of a Bunsen burner, surmounted by a cage of platinum wire which becomes glowing hot. April 14, 1881.

2636. Gas Cooking and Heating Stoves : G. J. Cox, Maidstone, Kent. 6d. 25 Figs.—The stoves are made with closed bottoms, and have channels, divisions, or heating spaces through which the air necessary for combustion travels. Two flues are provided for the exit current to traverse. The oven tops have corrugated reflectors, and a corrugated bright outer-casing to prevent radiation. The gas supply is adjusted by a compound nipple. June 16, 1881.

1302. Grates and Stoves for Burning Anthracite Coal, &c. : T. Parker, Coalbrookdale, Shropshire. 2d.—The back, sides, and lower portion of the fire basket are made of fire-clay, and have openings for the admittance of air, the supply of which is controlled by a rising slide. March 23, 1881.

BICYCLES, TRICYCLES, &c.

2678. Cycles and Velocipedes : A. Lafargue, Kensington. 2d.—By providing a bicycle with a double trailing wheel, which can be separate to form two wheels, it is rendered convertible into a tricycle. June 18, 1881.

2631. Distance Indicators for Bicycles, &c. : E. and T. A. Underwood, Birmingham. 2d.—Is for an arrangement of counting apparatus. June 16, 1881.

2565. Tricycles, &c. : E. J. Lewis, Reading, Berks. 6d. 3 Figs.—Consists in making at each side of the principal cranks a secondary crank, and connecting the treadles by means of flexible connexions and rigid rods, and connecting levers, so that during part of the rotation of the shaft it is acted upon by the principal cranks and during the remaining part by the secondary cranks. June 13, 1881.

KNIFE CLEANING AND CULINARY APPLIANCES.

2428. Machinery for Cleaning and Polishing Knives : J. Hargrave, Leeds. 6d. 4 Figs.—Two horizontal discs are rotated by a handle, and the knives inserted between them. The upper disc is made heavy so that its weight may give sufficient pressure. June 2, 1881.

2600. Apparatus for Washing or Cleaning Potatoes, &c. : J. Boardman, Rainford, Lancashire. 6d. 4 Figs.—A churn or cone-shaped vessel is placed in a trough of water, through which the potatoes are passed by means of vanes in the form of an archimedean screw. June 15, 1881.

2574. Kneading, Dividing, and Moulding Dough for Bread-Making : B. J. B. Mills, London. (E. R. van Skoda, Pilsen, Austria). 6d. 11 Figs.—The kneading is performed by a reciprocating plate with adjustable slots working in a dough trough. The dough is

divided by a scissors like movement of two plates. The loaves are formed by the operation of the combined kneading and cutting devices together with the presser plate. June 14, 1881.

2640. Knives for Peeling and Paring Vegetables and Fruits : H. Brandes, Hamburg, 2d.—Consists in furnishing the main blade with a subsidiary blade arranged at an angle thereto. June 17, 1881.

SUNDRIES.

2404. Portable Effervescent Fountain for the Production and Supply of Aerated Water or Liquors : R. Seager, Ipswich. 6d. 2 Figs.—The apparatus consists of a vessel having an upper chamber in which is placed alkali and acid, and a lower chamber containing water. When the apparatus is turned on one side the water blends with the alkali and acid and produces carbonic acid gas. The liquid is flavoured with syrups and drawn off as required. May 31, 1881.

2405. Folding Armchair : W. H. Beck, London. (E. Dubreil, St. Nazaire, France). 6d. 4 Figs.—The chair back slides in grooves in two standards, and is stayed by brackets when opened out, and bound by connecting rods at the back of the seat. May 31, 1881.

2286. Self-Acting Latch : W. Bevvitt, Romford, Essex. 2d.—A glass or metal ball is made to project through a hole in a plate on the edge of the door by a spiral spring. When the door is closed the exposed part of the ball enters a recess in the door-post. When the door is pushed the ball is forced back and allows the door to be opened. May 25, 1881.

1508. Apparatus for Raising and Supporting Ladies' Dresses : J. Fleuriman, London. 2d.—Is for an arrangement of cords and loops whereby the skirts of dresses may be raised and lowered with the utmost facility. April 6, 1881.

1475. Dwarf Window Blinds or Screens : W. H. Dandy, Great Driffeld, Yorks. 4d. 2 Figs.—Instead of such articles being in one piece they are composed of a number of vertical slats placed side by side. April 5, 1881.

1511. Receptacles or Racks for Bottles : J. Heaps, Manchester. 6d. 6 Figs.—A series of loose trays capable of being pushed one over another in a box ; the trays are divided by partitions on either side of a central bar, the bottles lying horizontally with their necks on one side under the bar, and on the other side above the bar. April 6, 1881.

2421. American Organ : W. E. Evans and R. W. Jarrett. 4d. 2 Figs.—Refers to improvements in the construction of the bellows by the application of cheek pieces to the middle board, so as to afford space for the wind to be drawn through valve boxes on the top board, and to the use of a stop action to open or close the expression pallet. June 1, 1881.

2716. Apparatus for Filtering Water : P. M. Justice, London. (J. W. Hyatt, Newark, U.S.A.) 1s. 6d. 20 Figs.—The distinctive novelty of this invention consists chiefly in the employment of agitators, &c., for agitating the granular filtering material, so that the silt and other impurities are separated from the material, and being of inferior specific gravity are allowed to rise and are removed by means of a current of water. June 21, 1881.

2432. Perambulators : T. G. Wells, Birmingham. 4d. 10 Figs.—The body, footboard, hood, wheels, back, and seat are connected together by fastenings which enable them to be readily taken apart for convenience of transport or storage. June 2, 1881.

1579. Churns : W. H. and T. Atkinson, Halifax, 2d.—The beaters and the churn both revolve in the same direction, but at different speeds. April 11, 1881.

1839. Musical Apparatus Applicable to Kettles, &c. : M. A. Weir, London. 2d.—Reeds or whistles are applied so that a revolving pin-drum operated by the escaping steam causes various sounds according to the particular valves opened by pins on the drum. April 28, 1881.

2116. Travelling Cabinet : W. M. Cochrane, London. 2d.—The cabinet is arranged so as to form a table and desk, and is fitted with compartments, shelves, and drawers, the whole being capable of being compactly closed for travelling. May 14, 1881.

2117. Apparatus for Producing a Number of Copies of any Writing or Design : J. H. Noad, East Ham, Essex. 2d.—The gelatinous surface instead of being flat as usual, is cylindrical, and is rolled over the paper to be printed, after having first received the impression from a paper written with aniline ink. May 14, 1881.

2257. Revolving Stands for Books, &c. : J. S. Kirwan, London. 6d. 2 Figs.—The stand has a circular base supporting an upright pillar, around which revolve the book-shelves. May 24, 1881.

2285. Covers for Cheese, &c. : H. J. Allison, London. (P. E. Chardemitte, Bordeaux). 2d.—The glass dome or cover is formed so as to admit air at the bottom, and to allow it to escape by holes at the top. May 25 1881.

2208. Apparatus for Ironing : W. H. Davey, Highgate, and H. Fabian, Erith, Kent. 4d. 3 Figs.—The article to be ironed is placed on a covered roller which, whilst revolving, has a heated iron drawn to and fro by means of a crank, a lever, and connecting rod. May 20, 1881.

2231. Apparatus for Washing Glasses, Jars, &c. : T. Wood Manchester. 6d. 4 Figs.—A solid cylindrical brush revolves within a hollow cylindrical brush, the two moving in opposite directions. When a glass is placed between the two its interior and exterior surfaces are washed and brushed simultaneously. May 21, 1881.

2166. Spring Mattresses, &c. : G. D. Peters, London. 6d. 3 Figs.—Consists, first, in a fastener for connecting the springs, and second, in an improved mattress constructed of frames, and springs connected by metal strips, and by the fastener. May 18, 1881.

2126. Compound for Renovating and Preserving the Polish of Wood Furniture : C. D. Abel, London. (E. Schultz, Berlin). 2d.—Consists of a mixture of fatty oils with gum mastic and other gums or resins dissolved in alcohol and with nitro-benzole. May 16, 1881.

BUSINESS MAXIMS FOR 1882.

- I will be strict in keeping my engagements.
- I will do nothing carelessly or in a hurry.
- I will employ nobody to do what I can easily do myself.
- I will leave nothing undone that ought to be done, and in which circumstances permit me to do.
- I will keep my designs and business from the view of others, yet be candid with all.
- I will be prompt and decisive with customers, and not overtrade my capital.
- I will prefer short credit to long ones; and cash to credit at all times, either in buying or selling; and small profits in credit eases with little risk, to the chance of better gains with more hazard.
- I will be clear and explicit in all my bargains.
- I will leave nothing of consequence to memory which I can and ought to commit to writing.
- I will keep copies of all important letters which I send away, and have every letter, invoice, &c., belonging to my business, titled, classed and put away.
- I will hold it as a maxim, that he whose credit is suspected is not to be trusted.
- I will constantly examine my books, and see through all my affairs as far as care and attention will enable me.
- I will balance regularly at stated times, and then make out and transmit all my accounts current to my customers.
- I will avoid as much as possible all sorts of accumulation in money matters, and law suits where there is the least hazard.
- I will be economical in my expenditure, always living within my income.
- I will keep a memorandum book in which I will note every particular relative to appointments, addresses and petty cash matters.
- I will be cautious how I become security for any person.
- And generous when urged by motives of humanity.

CORRESPONDENCE.

To the Editor of the Journal of Domestic Appliances and Sewing Machine Gazette.

DEAR SIR,—I have just noticed in the *Sewing Machine Journal* of New York, a paragraph under the heading "Personal," which is likely to mislead the public. It states that the White Sewing Machine Company has sold its Cleveland business to Messrs. Curtis and Read, also that Mr. Lees has been the manager at Cleveland. Mr. Lees has had charge only of the retail business done in the City of Cleveland, whereafter the retail sale of the "White" in Cleveland will be carried on by Messrs Curtis and Read.—Yours very truly,

GEORGE SAWYER.

To the Editor of the Journal of Domestic Appliances and Sewing Machine Gazette.

Sir,—After so many seasons of extreme depression in every department of commerce, it is very cheering to note at this time the bright and encouraging aspect afforded by the returns just issued by the Board of Trade for the year 1881. Without giving the returns of each month in detail, it will be sufficient to state that the total exports for the year 1881 show an increase over those of 1880 of £10,878,000, or say nearly 11 millions, on a total of £234,000,000; while the earlier and middle months show an average increase of only half a million, the closing months show an average increase of two millions. It is difficult to assign any reason for this rapid change, especially when it is remembered that nearly all foreign tariffs are decidedly against us. One reason that might be urged is the return of public confidence, and renewed credit abroad. When speaking of this growing prosperity it should always be borne in mind that our export trade is only a small portion of the total turn-over in our domestic productions. It is said, on excellent authority, that of the total profit made by the trade of this country our export trade only bears the proportion of one twentieth or one thirtieth to the whole. It may, however, be said that while the exporter may himself only obtain a moderate profit there are other profits consequent on the same, such as the profit of the manufacturer, spinner, &c., besides giving employment to the wage-earning and makers of engines, tools, and numerous other industries. Another benefit derived from the export trade is, that it creates a return trade with other countries. Ships go out laden; they discharge and return to us with cheap purchases, made in favourable markets, and yielding off times very large profits. What renders the prospect more encouraging is the comparison of exports as against imports. While the former are eleven millions more, the latter are fifteen-and-a-half millions less; and that this large decrease is made up mainly of diminished purchases of food, such as corn, potatoes, live cattle, butter, &c., manifestly showing a better yield of these necessities at home. From Sheffield, Middlesborough, Newcastle, Glasgow, and other important centres, the tale is of good profits and numerous orders. Our ship-building yards were never so fully employed, and they are likely to be for the next two years, if no further orders were received meanwhile. The one other boon now needed is a full and abundant harvest. Let us hope that a beneficent Providence will give us this, and then at its close the year 1882 will find all classes sharing in a common prosperity.—Yours truly,

M. A. CHADWICK.

Berbridge-street Chambers, 10th January, 1882.

EXHIBITION AT TRIESTE.—An exhibition will be held at Trieste from August 1, 1882, to November 15. There will be five principal groups, viz., mining and smelting, agriculture and forestry, manufactures, marine objects, miscellaneous. The first group will be divided into three classes:—1. Mineral and metallic products. 2. Drawings and models of plant and machinery. 3. Natural and artificial mineral waters. In the second will be a class for agricultural implements and machinery. The third—which is by far the largest—will contain 17 classes, comprising tools, machinery, and in many cases the complete process of production in various trades. Group 5 will contain collections of raw materials.

THOMAS SMITH & SONS,

ESTABLISHED 1848.



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THE ORIGINAL MANUFACTURERS OF

BICYCLE FITTINGS,

EVERY PART SUPPLIED IN VARIOUS STAGES,

**From the Rough Stamping or Forgings to the
Complete Finished Article.**

*None but the very best Brands of Material used for the several purpose
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VERY SPECIAL IN ALL SUNDRIES AND APPLIANCES,

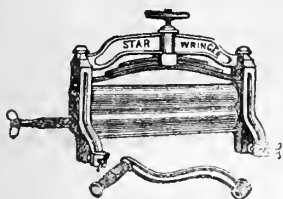
INCLUDING ALL NEWEST DESIGNS AND PRINCIPLES IN

**SADDLES, VALISES, SPANNERS, LAMPS,
BELLS, &c., &c.**

**61, HOLBORN VIADUCT,
LONDON, E.C.**

, Works :—Saltley Mill, Birmingham.

DEALERS ARE INVITED TO APPLY FOR WHOLESALE TERMS



STAR WRINGER.

This Wringer is of an entirely new and neat design, has a novel attachment whereby the Wringer can be fixed most firmly in a few moments to Washing Machines, or any Wash Tub, either round or square

Prices.—12-in. 18s. 6d.; 14-in. 20s. 6d.; 15-in. 22s. 6d.

Trade Terms on application.

BEVERIDGE & ROBERTSON,

Manufacturers of Mangles, Washing Machines, Wringers, &c.,
KIRKCALDY, N.B.

BEISSER & FLIEGE, CHEMNITZ, SAXONY,

Make, as a Special Article,

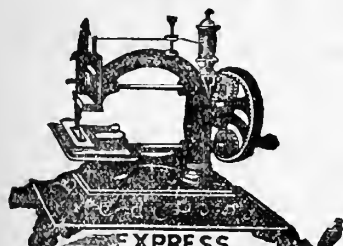
OIL CANS, with sharp turns for Sewing Machines, of zinc, of white iron plate, of brass, and with nickel in 30 different sorts. Also Oil Cans with squirting valve; and Oil Cans for pouring, for mechanical workshops, in the most various shapes and sizes. Screw Drivers with winged stock.

On request, Price Lists in the German, French, and English languages are sent free and gratis. The Manufactory is the largest and acknowledged as the best in Germany.

G. E. WRIGHT'S PATENT SEWING MACHINE.

LOOP-STITCH.

LOCK-STITCH.



EXPRESS
By the Half-dozen, 16/6 each.

ALL KINDS OF ROLLER SKATES.



THE LANGTRY
By the Half-dozen, 17/- each.

G. E. WRIGHT, 1, NEW BROAD ST., LONDON, E.C.

ELIAS HOWE SEWING MACHINES,

ADAPTED FOR EVERY DESCRIPTION OF WORK.

Families will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several plies of heavy Cloth.

Dressmakers who once use THE HOWE give it the preference over all others for beauty and durability of Stitch.

**PURCHASE NO
MACHINES**

Complete with
all Appliances
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A trial is all that is necessary to convince those in want of a Sewing Machine that THE HOWE is entitled to pre-eminence over all others.

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TRADE MARK.**

Price Lists and
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The Howe Machine Co. are also manufacturers of Bicycles and Tricycles.

THE HOWE BICYCLE, Price from £15 15s.. Possesses all the latest improvements, and will be found unrivalled for quality of workmanship and material. See Special Lists.

THE HOWE TRICYCLE, Price £16 16s.

A Machine designed on the Best Mechanical Principles.



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Factory: Avenue Street, Bridgeton, Glasgow.

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The "Coventry Triumph" Bicycles and Tricycles.

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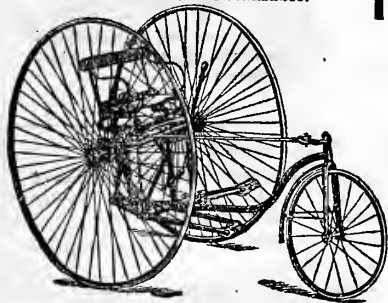
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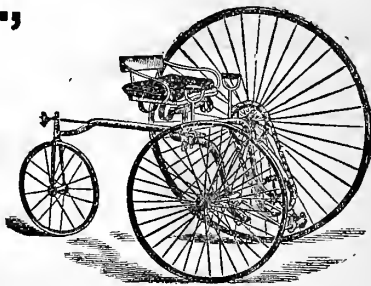
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Favourite Rotary Action.



Especially suited to Ladies. Price £16.
Easy, Safe and Graceful.



Compact and Neat.
Price £14 14s.

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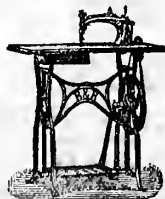
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NOISELESS, LIGHT RUNNING AND DURABLE.

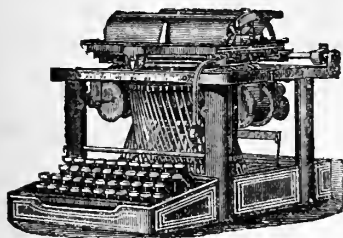
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Sewing Machine Manufacturers.

PRIZE MEDALS AWARDED, VIENNA 1873, PARIS 1867.

THE REMINGTON TYPE WRITER DEPOT:—

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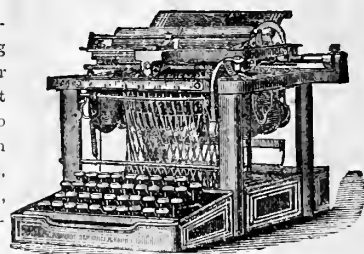
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It is portable, durable, and finished in the style of No. 2; the working parts are exposed to view.

A Machine to supersede the pen for manuscript writing, correspondence, &c., having twice the speed of the pen, is always ready for use, simple in construction, not liable to get out of order, easily understood, and any one who can spell can write with it. It is used in Government offices, by Merchants, Bankers, Lawyers, Clergymen, Doctors, Scientists, &c., &c. Its advantages are great and numerous, and no one ought to be without one.

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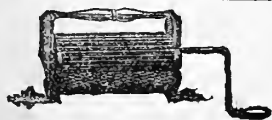
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—LATEST NOVELTY.—With strong, galvanized iron frame, steel springs, and best quality india-rubber rollers.

The Imperial Clothes-Wringer fixes itself to the tub, the springs are self-adjusting, and all pressure is automatically relieved from the rollers when not in use, therefore careless servants cannot spoil the rollers by leaving the pressure on.

PRICES.—10-inch Rollers, 25/-; 12-inch Rollers, 30/-



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—LATEST NOVELTY.—With galvanized iron frame and plugs.

The Diamond Washer is superior in washing power to all other Washing Machines of the kind. The lower roller is covered with diamond-faced india-rubber, which greatly increases the efficiency of the Machine and prevents buttons being broken.

There is no framework beneath the rollers, and therefore strings and small articles cannot catch and become entangled, as in some similar Machines.

Kenworthy's Patent Canadian Washer, 3s. 6d. each, wonderfully effective and easy to work.

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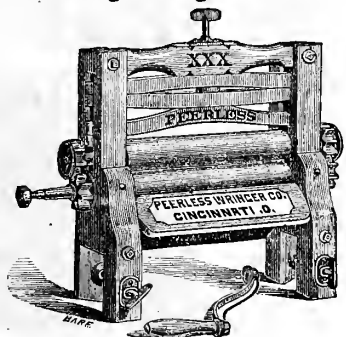
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WHOLESALE AND FOR EXPORTATION.

THE "PEERLESS" CLOTHES WRINGER

Is the leading Wringer of America.

AWARDED
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Shippers, Merchants, and the Trade
PLACED ON THE
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The best, the cheapest, the most substantial and simple wooden frame Clothes Wringer made.

Enquiries and Orders to be addressed to the Sole European Representatives,

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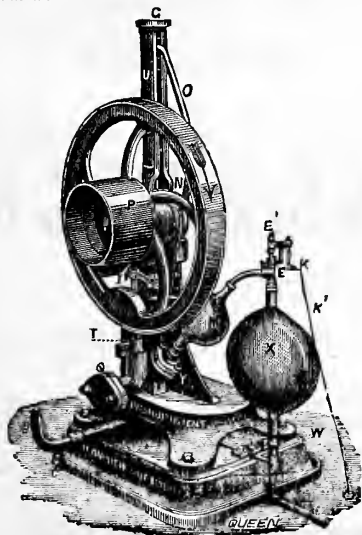
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Piston and Valve need no Lubricator. Will start at a moment's notice.

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One Man	£25 0 0
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IMPERIAL SEWING MACHINE,
In 1 to 6 oz. Bottles.

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OIL CANS, SCREW-DRIVERS, NEEDLES,
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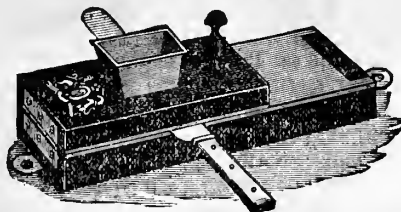
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PATENT.Of all MERCHANTS
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An article of domestic utility, simple in construction, compact in form, effectual in operation. Has equal pressure on thick and thin side of knife. Does not wear the knife.

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Stained Deal, 2/6; with adjusting Screw, 3/-
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WITH ALL THE LATEST IMPROVEMENTS.

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On the Wheeler and Wilson Principle.

Special Terms to Merchants and Shippers.

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Price 6d. per Dozen.

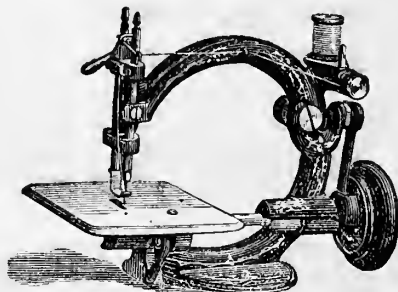
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Either for Hand, Treadle, Stand, or Power.
Lathes from 3 1/2 inch upwards.

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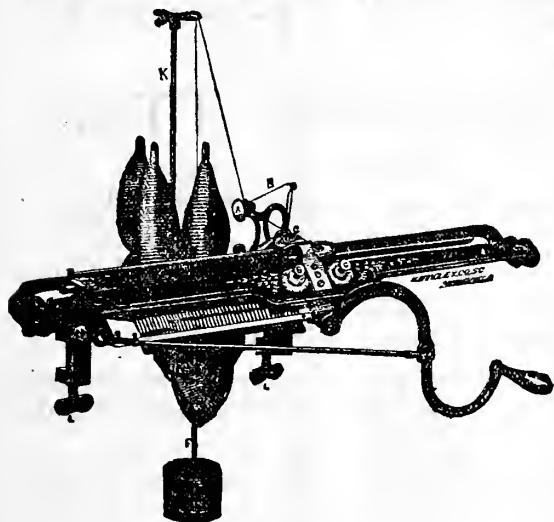
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Knits Hosiery of all sizes and perfect shape without seams exactly like handknitting;—knits also the greatest variety of different Garments, Fancy Goods, &c., &c.

It is worked by hand,

Is constructed of best material, and in the highest style of workmanship.

Will last a lifetime

Delivered well packed complete, with Spooling Machine, &c.

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Liberal discounts to Merchants and the Trade.

Any size or gauge of machine built to order on special terms and arrangements.

For further particulars apply to

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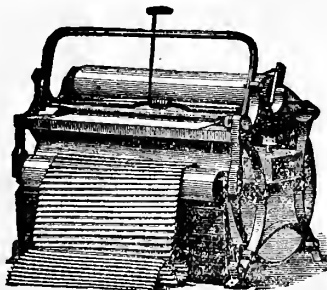
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For Description of this Famous Kilting Machine, see Page 19.

**THE
KENDALL**



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A SAMPLE MACHINE sent on receipt of remittance, 25s., payable to
T. BROOKS, Office of this Journal,

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THE JOURNAL OF DOMESTIC APPLIANCES AND SEWING MACHINE GAZETTE.

This Journal has for its object the promotion of all inventions for economising domestic labour and improving the dwelling, and all inventors of really practical appliances can rest assured of its support. In its pages will be found descriptions of all Patents, Critical Notices of Novelties, reports of all Exhibitions, the London Gazette, particulars of Liquidations, Trade Reports and General Articles relating to Domestic Labour-saving Appliances.

THE JOURNAL OF DOMESTIC APPLIANCES, circulates amongst Ironmongers, Domestic Machinery Dealers, Sewing Machine Agents, Merchant Shippers, and others interested in the manufacture and sale of such articles. Amongst the subscribers to this Journal are many of the largest Hotels and Hospitals; who are ever on the look out for aids to domestic labour.

Manufacturers of Gas or Oil Stoves, Washing Machines, Sewing Machines, Lawn Mowers, Knife Cleaners, Lamps, Pianos, Bicycles, Mincing Machines, Filters, and such articles will find, that as a medium for Advertisements, this Journal is unequalled, as it brings their announcements directly under the notice of the largest users and buyers.

There are Two Editions in the Month, one on the 1st, for the Home Trade, and one on the 15th (on thinner paper) for the Colonies.

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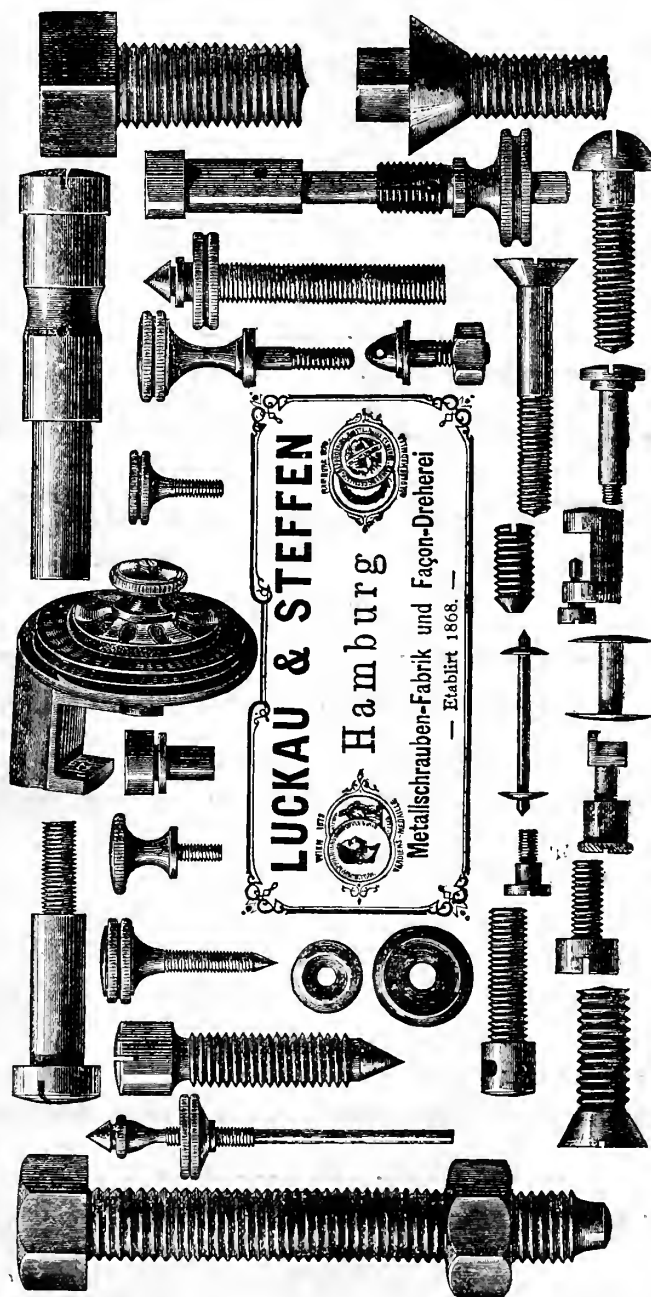
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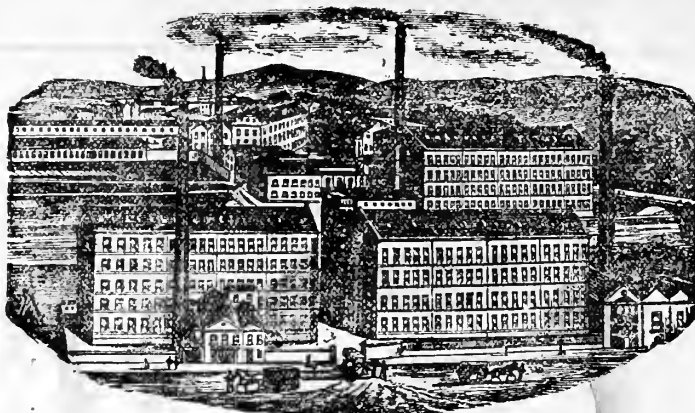
20, WORMWOOD STREET, LONDON, E.C.

LUCKAU AND STEFFEN, HAMBURG.



PRIZE MEDALS, VIENNA, 1873; HAMBURG, 1876.

Manufacturers of Metal Screws, &c.
ESTABLISHED 1868.



JOHNSTONE FLAX MILLS.

E.

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ances can rest
al Notices
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INDEPENDENT TESTIMONY.

FINLAYSON'S THREAD,

AT THE

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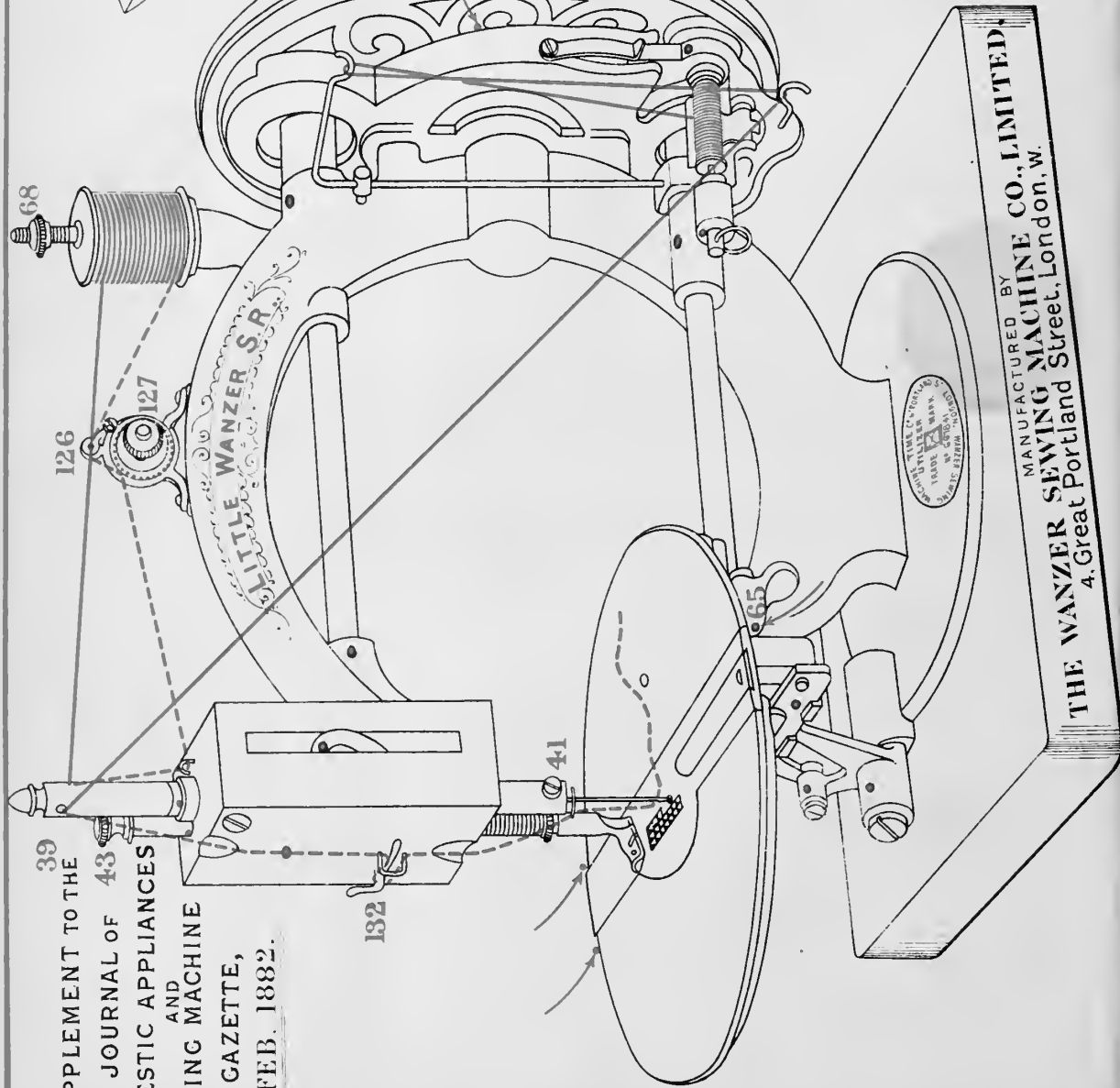
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The dotted red line shows how to thread the Needle.

The red dots show the Oil Holes, the arrows point to parts requiring Oil not shown on the face of drawing.

The numbers are referred to in the Instructions.

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- 39 NEEDLE BAR.
- 43 NEEDLE SOREW.
- 43 PRESSER POST.
- 85 STITCH REGULATOR.
- 68 SPOOL POST.
- 128 THE TENSION.
- 127 TENSION NUT

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Vol. X., No. 137.

MARCH 1, 1882.

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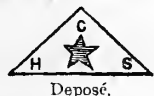
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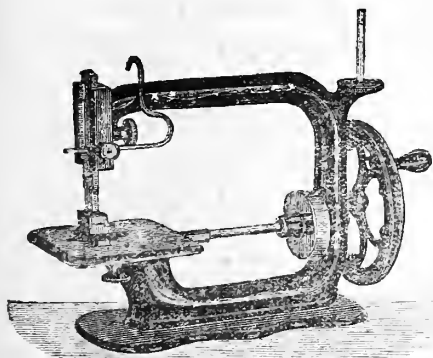


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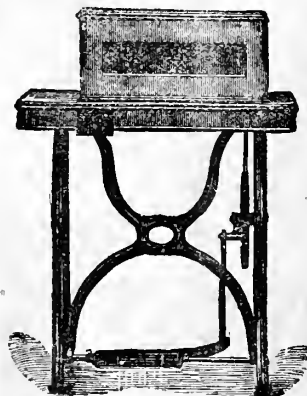
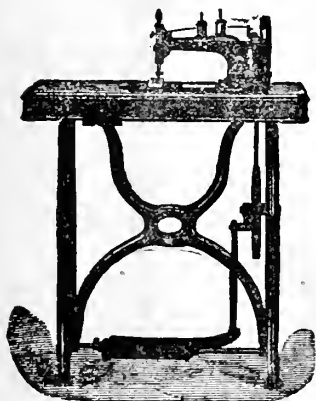
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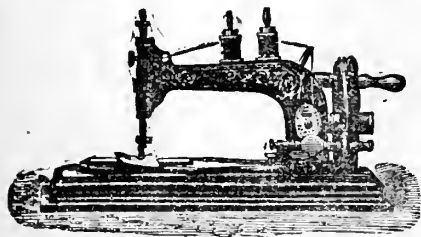
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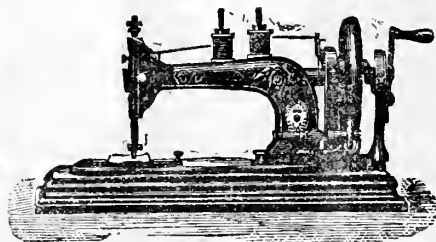
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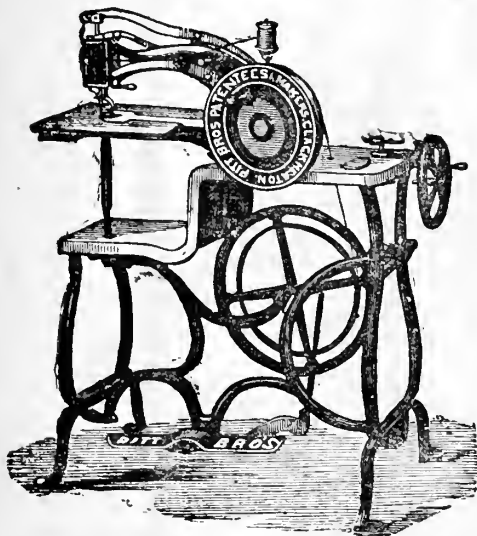
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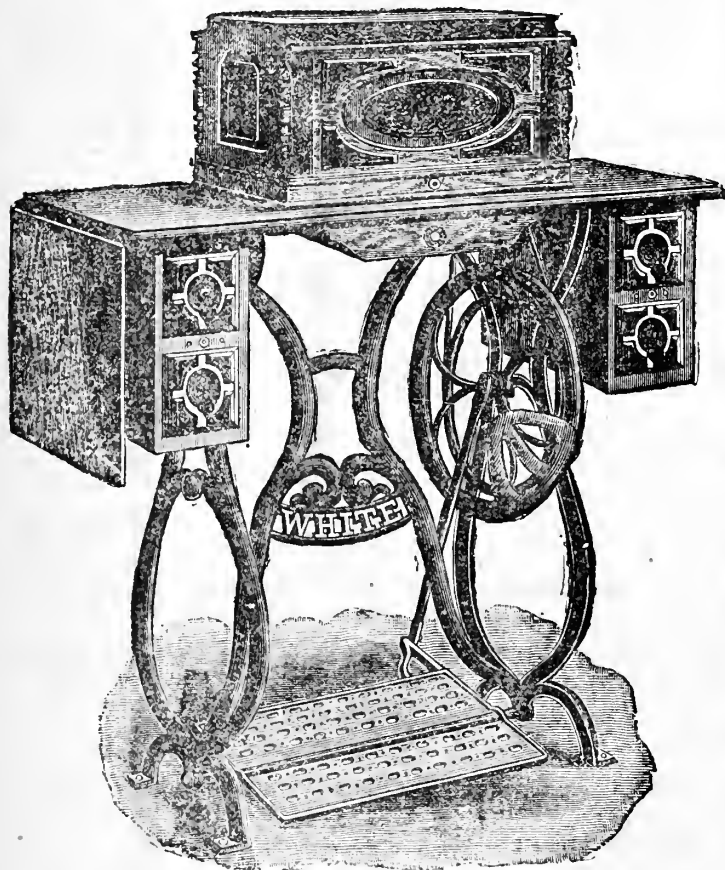
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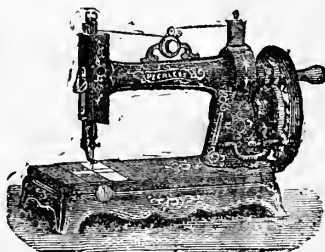
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Aberdeen, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Cupar-Fife, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 28, Castle-street
Galashiels, 62, High-street
Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st.
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Hawick, 3, Tower-knowe
Inverness, 14, Union-street
Kilmarnock, 53, King-street
Kirkcaldy, 69, High-street
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Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
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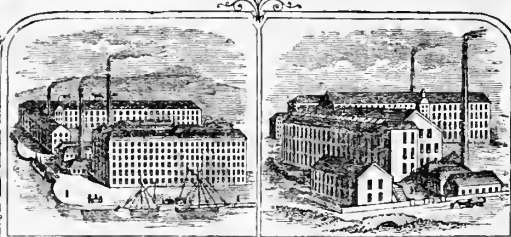
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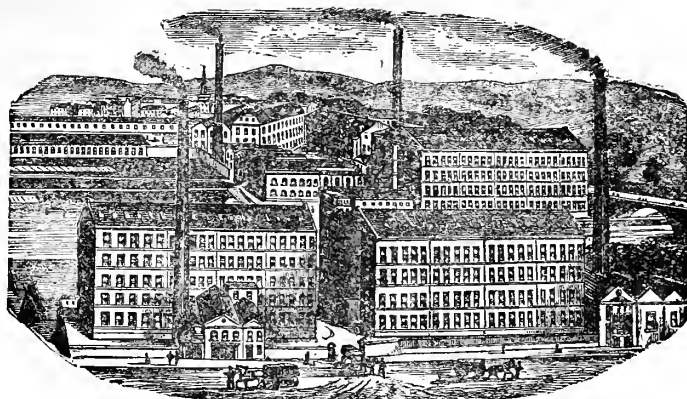
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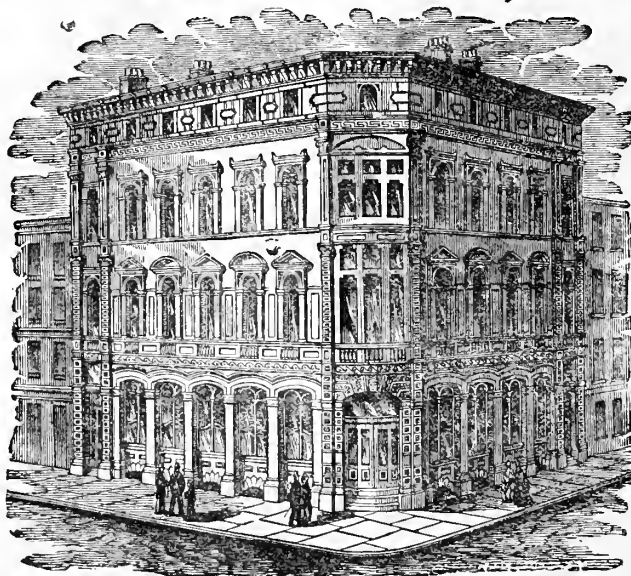
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ECONOMY.—Pages 161, 162:—"Free trade reduces the price of all commodities to the minimum; protection enhances the price not only of the article protected, but of all other articles consumed in the protected State. Instead of getting extra strength for the battle, you create interests, the vitality of which is entirely dependent on the national bounty, and which are a perpetual drain upon the resources of the country; and all under the mistaken idea that you will not pay the foreigner for what you can produce yourselves, forgetting that all 'commerce is barter,' that you pay him for his goods by your goods, and that you give a reality to his goods by cost you 15s., and in exchange for which you get what would cost you 20s. to make, and he on his side gets from you for 15s. what would cost him 20s. to make. So free trade benefits both parties; and there is no surer evidence that you are obeying the Creator's laws than when the effect of your acts tends to the general benefit. Free trade is for the good of the people generally; protection is based upon the plea that the interests of certain limited classes should be consulted to the detriment of the country and the world at large, stripped bare, protection means 'that all should be injured in order that a few should be favoured.' It is a doctrine utterly false and untenable. It implies opposition to all change and denial of all progress, because the change might be injurious to a few, though the progress would be beneficial to the many. Free trade admits of no compromise; the system is bad or good, right or wrong. It is imperative, therefore, that the people understand it, they are much interested in it. There is nothing abstract or technical about it. Its benefits and the disadvantages of its rival, protection, have been put forth clearly by myself in these pages; so that anyone can understand it. If I have myself understood, you will see that if all the world but Great Britain repudiated free trade, the advantage is to Great Britain, the loss to the rest of the world. You will see that to 'sell much and buy little' is an impossibility, as one depends upon, and is equal with the other. 'Imports' is a supply that creates compulsory demand. You must import to export. You cannot export unless you import. To 'sell much, therefore, you must, by your production, be able to 'buy much."

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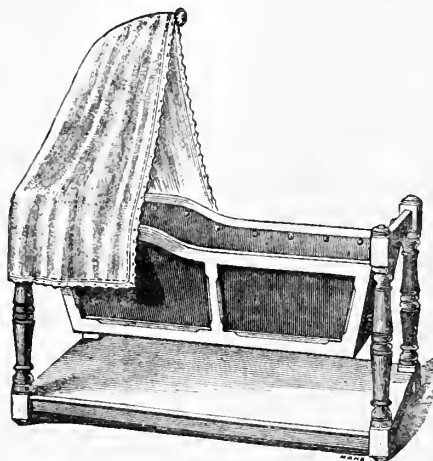
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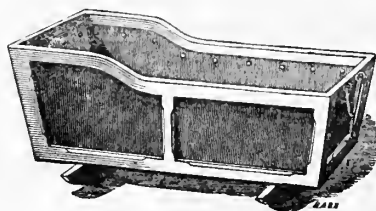
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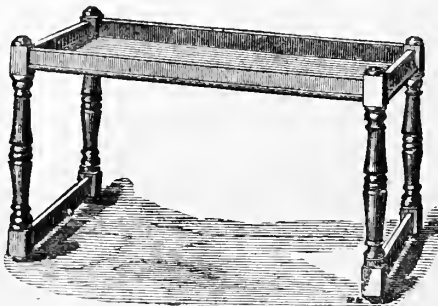
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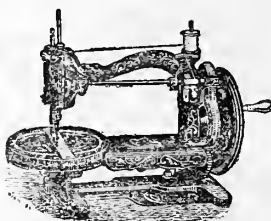


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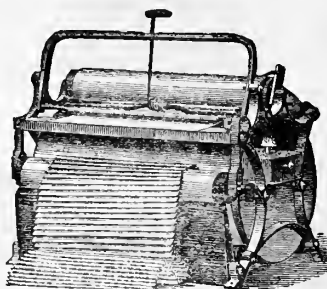
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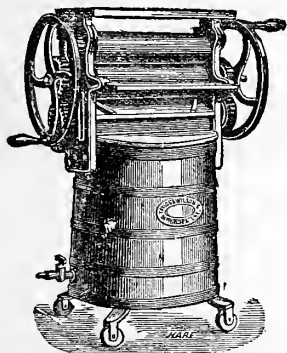


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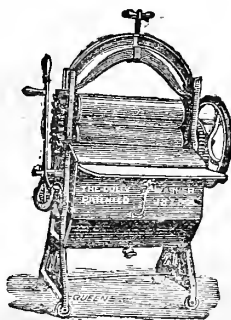
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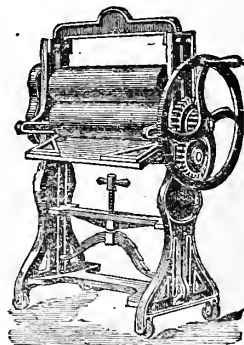
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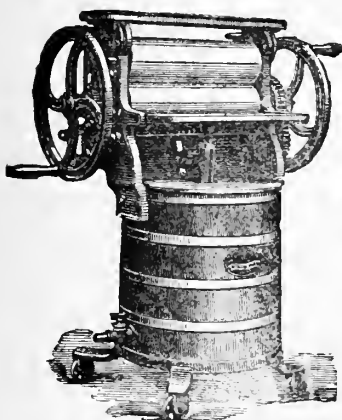
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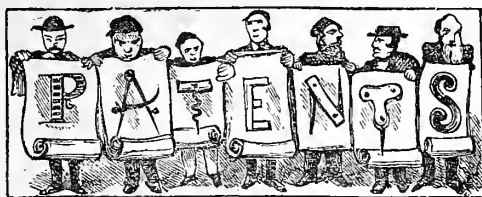
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ALPHA WORKS,

London Agent, Mr. HARPER TWELVETREES, Finsbury Pavement, E.C.



The following list has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette," by G. F. REDFEEN, Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.

APPLICATION FOR LETTERS PATENT:—

- No. 181. G. Moss, of the City Bicycle Works, 46, Barbican, London, for improvements in velocipedes. Dated January 13, 1882.
- „ 188. J. Parrott, of Wallington, Surrey, for improvements in warming and ventilating apparatus. Dated January 13, 1882.
- „ 199. J. F. Hoyne, of 7, Water-lane, London, and G. B. Lov-dee, of 16, Charlotte-street, Birmingham, for improvements in the construction of stoves, lamps, or other heat and light-giving apparatus. Dated January 14, 1882.
- „ 201. J. S. de B. Yelloly, Lieutenant Royal Navy, and A. H. S. Elwes, Sub-lieutenant Royal Navy, for improvements in skates. Dated January 14, 1882.
- „ 207. J. H. Miles, of Birmingham, Perambulator and Bath Chair Manufacturer, for improvements in perambulators and bath chairs. Dated January 14, 1882.
- „ 210. W. Soper, of Reading, Gun Maker, for improvements in velocipedes and other wheeled vehicles, parts of which improvements are applicable to machine shafting and the like. Dated January 14, 1882.
- „ 255. M. H. Pearson, of Leeds, for improvements in sewing machines. Dated January 18, 1882.
- „ 258. R. G. Greig—a communication from The Detroit Stove Works Company, of Detroit, Michigan, United States, for improvements in stoves for heating and ventilating. Dated January 18, 1882.
- „ 262. H. H. Lake—a communication from D. H. Campbell, of Pawtucket, Rhode Island, United States, for improvements in wax-thread sewing machines. Dated January 19, 1882.
- „ 301. H. J. Haddan—a communication from J. Mathison, of Massachusetts, United States, for improvements in the method of and mechanism for sewing buttons to cloth or other material. Dated January 21, 1882.
- „ 376. C. D. Abel—a communication from Cäsare, Donadoni, and Pohl, of Berlin, for improvements in piano organs. Dated January 25, 1882.
- „ 415. W. Hillman, of Coventry, Velocipede Manufacturer, for improvements in velocipedes, parts of which improvements are applicable also to other purposes. Dated January 27, 1882.
- „ 423. C. A. Barlow—a communication from C. W. Wetter, of St. Gall, Switzerland, for improvements in the manufacture of machine embroidery. Dated January 27, 1882.
- „ 439. A. Burdess, of Coventry, for improvements in the construction and arrangement of the seats of tricycles, and also of the handles thereof. Dated January 28, 1882.

- No. 449. J. W. Brown, of Leamington, Gentleman, for improvements in kitcheners or cooking ranges and cooking grates, and in apparatus for ventilating kitchens and other apartments. Dated January 28, 1882.
- „ 459. E. Andrews, of 5, Market-hill, Sudbury, Suffolk, for improvements in perambulators, bath chairs, and other carriages propelled by hand or manual power. Dated January 30, 1882.
- „ 465. J. Byfield, of London, Ontario, Canada, for improvements in knitting machines. Dated January 31, 1882.
- „ 466. J. F. McLaren, of Glasgow, Solicitor, for improvements in sewing machines. Dated January 31, 1882.
- „ 467. J. W. Golding, of 14, Bonchurch-road, Kensington, London, for improvements in the construction of bicycles, tricycles, and velocipedes, applicable in part to other machinery. Dated January 31, 1882.
- „ 503. H. Salisbury, of 125 and 126, Long-acre, London, for improvements in suspension lamps for bicycles, tricycles, and like vehicles. Dated February 1, 1882.
- „ 517. W. R. Lake—a communication from F. G. Burley, of Boston, Massachusetts, United States, for an improved saddle for bicycles or similar vehicles. Dated February 2, 1882.
- „ 518. A. G. Meeze, of Redhill, Surrey, and A. G. Salamon, of Clapham-park, and R. E. Phillips, of Great George-street, Westminster, London, for improvements in velocipedes and in fittings for the same. Dated February 2, 1882.
- „ 519. G. W. von Nawrocki—a communication from R. Müller, of Berlin, for improvements in fire-places, especially applicable to domestic and other stoves, for the prevention of smoke and the economy of fuel. Dated February 2, 1882.
- „ 520. J. D. Ellison, of Coventry, for improvements in or connected with the driving parts of certain velocipedes. Dated February 2, 1882.
- „ 550. R. Harrington, of Wolverhampton, Bicycle Manufacturer, and T. Fuller, of Southwark, London, Bicycle and Tricycle Manufacturer, for improvements in velocipedes. Dated February 4, 1882.
- „ 552. W. H. D. Jones, of 30, Torrens-road, Brixton-rise, London, for improvements in knife cleaning machines. Dated February 4, 1882.
- „ 562. E. R. Settle, of Coventry, Velocipede Manufacturer, for improvements in velocipedes. Dated February 6, 1882.
- „ 582. J. Hill, of New Oxford-street, London, for improvements in sewing machines. Dated February 7, 1882.
- „ 583. B. Roberts, Mechanic, in the employment of Messrs. J. Devey and Son, of Wolverhampton, Bicycle and Tricycle Manufacturers, for improvements in tricycles. Dated February 7, 1882.
- „ 594. H. L. Wilson, and J. Clegg, both of Clayton-le-Moors, near Accrington, Washing and Wringing Machine Makers, for improvements in machines for washing, wringing, and mangling fabrics. Dated February 7, 1882.
- „ 600. J. G. Smith, of Eccles, Lancashire, for improvements in the construction of tricycles or other similar machines. Dated February 8, 1882.
- „ 608. J. Beeston, of Lymington, Hampshire, for improvements in tricycles. Dated February 8, 1882.
- „ 618. G. W. Ash, of "The Leader Bicycle Works," 13, Russell-street, Southsea, Hampshire, for improvements in or applicable to bicycles, tricycles, and other vehicles. Dated February 8, 1882.

- No. 650. H. A. Dufrené—a communication from A. Mange, of Longchamp, France, for improvements in velocipedes. Dated February 10, 1882.
- „ 671. J. S. Willway, of 17, St. Augustine's Parade, Bristol, for an improved construction of door mat and scraper combined. Dated February 11, 1882.
- „ 683. A. Burdess, of Coventry, for improvements in ball or roller bearings for velocipedes. Dated February 11, 1882.

Letters Patent have been issued for the following :—

- No. 3,180. J. G. Smith, of Russell-street, Eccles, Lancashire, for improvements in tricycles. Dated July 21, 1881.
- „ 3,200. A. Burdess, of Coventry, for improvements in driving mechanism for tricycles and like vehicles. Dated July 22, 1881.
- „ 3,212. G. Singer, of Coventry, for improvements in velocipedes. Dated July 22, 1881.
- „ 3,298. D. Mills, of Philadelphia, Pennsylvania, United States, for improved apparatus or mechanism to be applied to a sewing machine to adapt the same for stitching or sewing button-holes. Dated July 28, 1881.
- „ 3,371. F. Wirth—a communication from P. Praechter, of Heidelberg, Germany, for improvements in velocipedes, partly also applicable to the driving mechanism of sewing machines and other machines driven by foot power. Dated August 3, 1881.
- „ 3,408. G. Strickland, of 217, Strada San Paolo, Valletta, Malta, for improvements in bicycles and other velocipedes. Dated August 6, 1881.
- „ 3,432. W. R. Foster, and T. J. Williams, both of Grange, road, Bermondsey, London, for improvements in securing India-rubber tyres, to wheels of bicycles, tricycles, and other vehicles. Dated August 8, 1881.
- „ 3,572. G. Richards, of 12, City-road, Manchester, and B. C. Tilghman, of 80, Gray's-inn-road, London, for improvements in velocipedes. Dated August 17, 1881.
- „ 3,587. A. W. Robinson, of Birmingham, for improvements in bicycles and other velocipedes. Dated August 17, 1881.
- „ 3,678. E. W. Lay, of 3, North-end, Hampstead, and S. Martin, of 6, Golder's-hill-terrace, North-end, Hampstead, both in London, for improvements in apparatus for polishing spoons, forks, and other such like articles. Dated August 23, 1881.
- „ 3,723. F. Caldwell, of Loughborough, Leicestershire, for improvements in machinery and apparatus to be employed in the manufacture of knitted fabrics. Dated August 26, 1881.
- „ 3,744. E. C. F. Otto, of Peckham, London, for improvements in bicycles and other velocipedes. Dated August 27, 1881.
- „ 3,774. A. M. Clark—a communication from J. K. Harris, of Springfield, Ohio, United States, for improvements in button-hole attachments for sewing machines. Dated August 30, 1881.
- „ 3,782. J. White, of Earlsdon, near Coventry, Watch Manufacturer, and J. Asbury of Coventry, Machinist, for improvements in the construction of velocipedes. Dated August 30, 1881.
- „ 4,032. C. A. Snow—a communication from F. G. Altman, and F. Pommer, both of Edina, Missouri, United States, for improvements in sewing machines. Dated September 19, 1881.

- No. 4,042. S. Clarke, of Park-street, Upper-street, Islington, London, for improvements in gas and oil stoves or apparatus for heating and lighting purposes. Dated September 19, 1881.
- „ 4,121. T. E. Heath, junior, of Penarth, Glamorganshire, for improved means of and apparatus for driving bicycles and other velocipedes. Dated September 24, 1881.
- „ 4,342. T. Fletcher, F.C.S., of Warrington, for improvements in gas stoves for heating purposes. Dated October 6, 1881.
- „ 4,430. T. T. Harrison, of Abbots-lodge, Lower College-green, Bristol, for improvements in bicycles. Dated October 11, 1881.
- „ 4,466. W. Dexter, of Nottingham, for improvements in warp or straight knitting machines, and in the fabric produced thereon. Dated October 13, 1881.
- „ 4,526. P. Everitt, of Great Ryburgh, and A. Barnard, of Norfolk, for improvements in stoves and grates. Dated October 17, 1881.
- „ 5,166. H. J. Haddan—a communication from D. A. Porter, and T. H. White, both of Cleveland, Ohio, United States, for improvements in sewing machines. Dated November 26, 1881.

PATENTS WHICH HAVE BECOME VOID :—

- No. 5. M. Fawthrop, of Huddersfield, for a finger shield or protector to be used when sewing. Dated January 1, 1879.
- „ 77. W. Hatchman, of 73 and 74, Wood-street, London, for improvements in coverings or awnings for perambulators and other places. Dated January 8, 1879.
- „ 137. W. S. Lewis, of Wolverhampton, Velocipede Manufacturer, for improvements in bicycles and tricycles. Dated January 13, 1879.
- „ 145. C. Wood, of Heaton Norris, Lancashire, Mechanic, for improvements in wringing, mangling, and calendering machines. Dated January 13, 1879.
- „ 148. W. R. Lake—a communication from W. V. Wallace, of Dorset, Vermont, United States, for an improved easer for pianos and other musical instruments. Dated January 13, 1879.
- „ 199. J. Harrington, and H. Brent, both of Ryde, Isle of Wight, for improvements in bicycles and other wheeled vehicles, part of which improvements is applicable to bearings generally. Dated January 16, 1879.
- „ 241. W. Morgan Brown—a communication from O. Twombly of Lake Village, New Hampshire, United States, for improvements in rotary knitting machines. Dated January 21, 1879.
- „ 348. M. H. Pearson, of Leeds, for improvements in sewing machines. Dated January 23, 1879.
- „ 372. H. Tetlow, of Miles Platting, Manchester, and T. Johnson, junior, of Macclesfield, for improvements in heald knitting machinery. Dated January 29, 1879.
- „ 442. S. Pitt—a communication from S. Rockwell, of Baltimore, Maryland, United States, for improvements in button-hole attachments for sewing machines. Dated February 4, 1879.
- „ 451. M. Grieve, of 27, Chestnut-street, Leicester, for improvements in knitting machinery. Dated February 4, 1879.
- „ 166. W. Reid, of Glasgow, Shirt Manufacturer, for improvements in and connected with sewing machines. Dated January 15, 1875.

- No. 238. E. Moreau, of San Francisco, California, United States, Engineer, for improvements in sewing machines. Dated January 21, 1875.
- „ 430. G. Porter, junior, of Cullum-street, London, Gas and Hot Water Engineer, for improvements in gas burners. Dated February 4, 1875.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1d. each extra.

		s.	d.
„ 2,469.	C. Pieper, lock-stitch sewing machines...	...	6
„ 2,550.	A. D. Fwise, type writing machines ...	10	6
„ 2,582.	H. J. Haddan, tricycles ...	6	6
„ 2,591.	W. Harrison, velocipedes, &c. ...	2	6
„ 2,594.	G. O. Lauckner, burners and chimneys for oil lamps ...	2	6
„ 2,613.	A. L. Bricknell, velocipedes ...	6	6
„ 2,624.	W. T. Sugg, gas cooking stoves ...	6	6
„ 2,627.	M. Wilson, receptacles for lucifer matches ...	6	6
„ 2,631.	E. and T. A. Underwood, distance indicator for bicycles &c. ...	2	6
„ 2,636.	G. J. Cox, gas cooking and heating stoves ...	6	6
„ 2,638.	F. Siemens, lamps ...	6	6
„ 2,653.	W. Barton, stoves ...	6	6
„ 2,678.	A. Larfargue, cycles and velocipedes ...	2	6
„ 2,680.	L. H. Pearce, motorcycles ...	6	6
„ 2,690.	E. P. Alexander, lamps for sewing machines &c. ...	6	6
„ 2,722.	W. R. Lake, wax-thread sewing machines ...	10	6
„ 2,734.	W. J. Brewer, automatic regulating gas burners ...	6	6
„ 2,755.	J. Sefton, drives for sewing machines ...	2	6
„ 2,812.	T. J. Denne, sewing machines ...	6	6
„ 2,832.	F. A. K. Cook, laundry irons ...	6	6
„ 2,895.	G. Lowry, tricycles, &c. ...	2	6
„ 2,934.	W. Scott, combined rotary knife and fork cleaner ...	2	6
„ 2,236.	R. Jones, tricycles, &c. ...	2	6
„ 2,940.	C. Slater, churns ...	2	6
„ 3,016.	G. L. O. Davidson, velocipedes ...	6	6
„ 3,077.	H. S. H. and E. Shaw, speed indicators for velocipedes, &c. ...	2	6
„ 4,330.	W. R. Lake, manufacturer of knitting machine needles ...	6	6

PARTNERSHIPS.—In a bill brought in by Mr. Monk, M.P., it is proposed to introduce a system of limited partnerships corresponding to the Continental *sociétés en commodité* and the special or limited partnerships authorised by statute in most of the United States. One of the objects of the bill is to do away with the system of loans for a share of profits as now practised or attempted under the Act of 1865. Mr. Monk also advocates the introduction of a general system of registration of firms. Under this scheme no registration would be required if the firm-name consists of the full usual names of all the partners or acting partners without any addition. Thus the name of a dormant partner need not appear as long as the firm-name is composed solely of real names of existing partners. But if a firm register at all, it must register fully, and limited partnerships, and those whose firm-name contains anything beyond names of actual partners, must always register. The particulars which the scheme requires to be registered are—(1) The firm-name; (2) the nature of the business; (3) the places of the business; (4) the full name, usual residence, and other occupation (if any) of the partners; and (5) in case of the future commencement of a new business or establishment of a new place of business, the date of such commencement or establishment. The bill embodying these proposals also consolidates the existing law relating to partnerships, with the exceptions of the part that more properly belongs to bankruptcy.

SEWING MACHINE NEWS.

Messrs. Jones and Co. (Limited), sewing machine manufacturers, have removed their City Dépôt from 182, Aldersgate-street, to 3, Long-lane.

A petition has been presented by Messrs. Wilson and Co., of 104, Cheapside, for the winding up of the company carrying on business under the title of Griswold and Hainworth (Limited), manufacturers of all kinds of looped and netted fabrics, of Charterhouse-square.

Plans of the new sewing machine factories to be erected by the Singer Manufacturing Company on the Clyde side, near Glasgow, have for some time been under the consideration of the directors at the Company's head offices in New York. These indicate very extensive building operations, and it is anticipated that the new works will not be fully ready for occupation for a couple of years. The ground, which is not simply taken on lease, but acquired by a clear purchase, extends to forty-six imperial acres, and it has been arranged that the works thereon will produce 10,000 sewing machines per week. At present the Company manufacture in their Glasgow factory 6,000 machines per week, and not less than 8,000 weekly at their extensive works in Elizabeth Port, New York.

One of the most attractive windows in the City of London is that of Messrs. Bradbury and Co., Limited, Newgate-street. Their new Rotary Shuttle Machine in motion by a miniature steam engine, causing all passers by to pause and have a look.

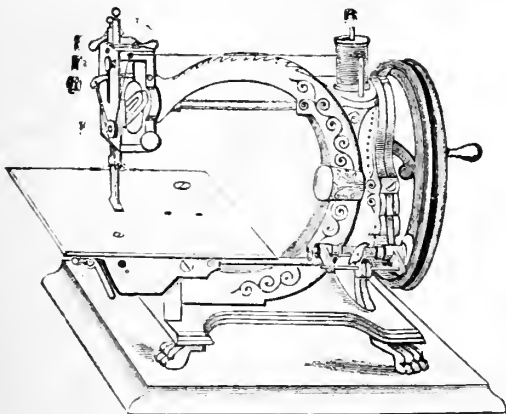
Mr. William Burley, of 34, London Wall, (export agent for Sellers Sewing Machines, and Holroyd Kitting Machines) has opened a depot for Youngs Holdfasts and articles of a similar character at Tower Chambers, Moorgate-street, E.C.

Blanchard Edward, Sewing Machine Maker, aged 42, has been sentenced to 12 months hard labour for stealing sewing machines.

GERMAN CUSTOMS.—The latest curiosity in the way of duty charges by the German customs authorities is reported from Ham burg. A commission agent of that town is in the habit of receiving German cloths and stuffs from Cottbus, and of course he is occasionally supplied with patterns, consisting of small scraps of cloth pasted on a sheet of strong white paper. The patterns are returned to Cottbus, in order that the cloths which are out of stock or out of fashion may be withdrawn, and that newer samples may be substituted. But, on the other hand, a pretty large return consignment of patterns thus sent was seized by the customs authorities and declared to be subject to duty, under the classification of writing paper, and chargeable at the rate of one mark. This astonishing application of the tariff was appealed against, but the original decision was confirmed; for as the authorities very judiciously pointed out, the samples might be pulled off from the thick white sheet underneath, and the latter might then be used as writing paper! From Leipsic we learn that books covered with linen or leather covers over the backs are being charged as bookbinding ware or leather goods. *Manchester Examiner.*

THE NEW SHAKESPEAR SEWING MACHINE.

The Royal Machine Manufacturing Co., of Small Heath, Birmingham, recently placed on the market the New Shakespear Sewing Machine. So far as its form goes it resembles the old machine, but it has several great improvements in its working parts rendering it a most reliable hand machine. We never found the old "Shakespear" anything but a good machine; the "New" is a modern edition of the same containing important



improvements. The "New" Shakespear is fitted with patent feed, new patent automatic winder, loose wheel, new tension, &c. The automatic winder is an ingenious attachment, which runs light and does its work most efficiently. Its operation is very simple, and it can be run simultaneously with a machine for sewing or for winding only, as may be desired. While this company have improved their machine, they have done another important thing towards ensuring its sale, reduced its price. It never was a dear one, and it is now one of the best and cheapest lock-stitch machines in the market.

A BILL has been introduced by Earl Stanhope into the House of Lords, which recites that, "By reason of the present labour in shops and warehouses for the sale of textile fabrics and articles of wearing apparel, many women and young persons are grievously injured in health;" and proposes to enact that on and after January 1, 1883, "it shall not be lawful for any shop or warehouse for the sale of textile fabrics and articles of wearing apparel, where women and young persons are employed, to be open for more than ten hours in each day." Another clause provides that, "to meet the exigencies of the season trade, permission may be granted by the Secretary of State for the Home Department for an extension of time to any establishment making an application therefore, but such extension shall not exceed 60 days in each year, nor be for more than two hours in each of said days, and the employers receiving permission for such extension must forward an intimation to the Home Office each night the extension is taken advantage of."

VERITY BROTHERS V. WADDELL AND MAIN.—Shortly after the Smoke Abatement Exhibition was opened at South Kensington, Verity Brothers commenced an action against Waddell and Main, of Glasgow, for exhibiting at their stall Heslop's metallic gas-fire, which Messrs. Verity alleged to be an infringement of their patent. They claimed an injunction to restrain Waddell and Main from exhibiting Heslop's gas-fire at the exhibition, and generally from infringing the patent. Messrs. Waddell and Main filed affidavits alleging that the Heslop gas-fire was entirely different from Verity's fire-clay burner, and totally denying that it was an infringement of Messrs. Verity's patent, even if the patent were valid. Messrs. Verity have since abandoned their action and given formal notice of its discontinuance.

MESSRS. SPONG AND CO'S BOOT CLEANING ASSISTANT.

In bringing this simple though effective article before the public, the inventor endeavours to add one more assistant to domestic economy. That it is a long-felt want, the daily experience of every one who takes a pride in a clean and neat boot can readily testify to. Blacking of the simplest kinds, softens and preserves the leather, retards excessive moisture, and renders the boot and shoe



in every way more healthy and comfortable, whereas with most varnishes quite the reverse can be said. From its hard and impervious nature the pores of the leather are clogged, respiration stopped, the leather cracks, and a few weeks' use of the Labour-Saving Varnish, the boot or shoe is rendered unfit to be seen and impossible to polish. The Assistant is not a complicated and expensive machine, but, as its name implies, an assistant. There is a rest for the boot or shoe, whether blacked on or off the foot, that can be raised or lowered to any suitable height. Attached is a cup for holding the blacking, the lid of which acts as a reservoir for holding water or other liquid for moistening the blacking, and appended by means of a hook are the American style of brushes with handles, by the use of which it is possible to clean and polish a boot expeditiously without soiling the hands. In the same form the Assistant is enclosed in a box or chest, the combination of which gives us a receptacle or boot closet to keep our boots and shoes in. This arrangement is a great convenience for offices, private lodgings, &c. The top part of the box is an enclosed tray which catches the dirt and enables one to clean his boots or shoes without any danger of dust and dirt. The lower part of it is entirely isolated from the top by means of a dust proof partition, and forms a clean and dry closet for any number of boots and shoes. Any one who has ever put a clean stocking into a dusty boot or shoe will appreciate the advantages of the latter. This invention retails at 15s., it is of American invention, and is imported by Messrs. Spong and Co., High Holborn.



BILLS OF SALE.

Austin, Walter, High-street, Rothwell, near Kettering, Northamptonshire, ironmonger, &c.; £130. In favor of Royal Advance Bank. Filed January 24.

Bilbrough, George, 285, Hackney-road, ironmonger, secured 15s. in £ to creditors. In favor of Robert Mansell and Another. Filed January 26.

Hoare, John, 8, Sidney-terrace, Kilburn, ironmonger; £20, &c. In favor of Michael Leffert. Filed January 26.

Baxter, Joseph, 57, Bradford-road, Idle, Calverly, Yorks. ironmonger; £200. In favor of John Murgatroyd. Filed February 2.

Hesketh, James, 6, Lee-grove, Goodiers-lane, Salford, Lancaster, ironmongers assistant; £28, &c. In favor of Manchester Industrial &c. Co. Filed February 3.

Richardson, James, 132, Cheetham-hill-road, Manchester, dealer in sewing machines, &c.; £7, &c. In favor of John L. Stelfox. Filed February 3.

Ransom, Henry, 36, Walnut-tree Walk, Kennington-road, sewing machine maker; £21 &c. In favor of William R. Cohen. Filed February 8.

Nokes, Joseph, 39, Worcester-street, Bromsgrove, Worcestershire, sewing machine agent (of property at 47, Worcester-street, Birmingham); £127 2s. 3d. In favor of Thomas Kimberley. Filed February 11.

Streeton, William Thomas, 1, Wheatsheaf-terrace, Lea-bridge-road, Leyton; ironmonger, &c.

Streeton, William, 158 and 160, Hackney-road, ironmonger, &c. (trading as William Streeton and Son); £240, &c. In favor of Benjamin Blaiberg. Filed February 10.

Burnley, Benjamin, Ledger-lane, Outwood, near Wakefield, sewing machine agent; £15. In favor of Howard Horner. Filed February 13.

Davies, John Walter, Newtown, Montgomeryshire, ironmonger; £200, &c. In favor of Lewis Lewis and Another. Filed February 14.

Godden, William, 11, Upper East-street, and 1, Oriental-cottages, Vincents-walk, Southampton, ironmonger, &c.; £56, &c. In favor of Joseph J. Plowman. Filed February 18.

Hately, David, 1, Albert-road, Hoylake, Cheshire, ironmonger; £150, not ex. In favor of John B. Smith and Another. Filed February 18.

Hawley, John, 1, Reaston-street, New-cross-road, ironmonger &c.; £34, &c. In favor of Thomas Fairhead. Filed February 16.

Sutton, George William Heather, Market-place, Romsey, Hants, ironmonger; £15, &c. In favor of Solomon Levene. Filed February 16.

DISSOLUTIONS OF PARTNERSHIPS.

Baines and Fowler, Langsett-road, Sheffield, sewing and wringing machine dealers. January 26. Debts by William Henry Baines.

Barraclough and Thompson, Barkerend-road, Bradford, pianoforte and sewing machine dealers. January 26.

Bradley and Howitt, Newark, ironmongers. August 14.

Cooper and Son, East Dereham and Walton, ironmongers. December 29. Debts by James Cooper.

Marshall, Martha, and Elizabeth, Derby-road, Bootle, ironmongers. January 21. Debts by Martha Marshall.

LIQUIDATIONS BY ARRANGEMENT.

Richards, Susanna Berington, 42, Cross-street, Abergavenny, ironmonger. January 27.

West, William Edward, Bedford-hill-road, Balham, ironmonger. January 23.

Lamb, Charles Job, Henley-in-Arden, Warwickshire, ironmonger. February 1.

Long, Josiah, Binstead-road, Buckland, Portsea, late Marmion-road, Southsea, ironmonger. February 3.

Norris, Maria Ester, trading as James Norris, Old-street, Shoreditch, and Sidney-terrace, Stamford-hill, late New North-road, Hoxton, mangle manufacturers, &c. January 31.

Lee, John, 72, Godwin-street, and Belgrave-place, Bradford, ironmonger. February 10.

Perman, Sidney Henry, trading as Hutchinson, Batchelor and Perman, Upper Thames-street, late ironmonger. February 2.

Sanby, Samuel Deuman, 36, Terminus-road, Eastbourne, ironmonger. February 13.

COUNTY COURT JUDGMENTS.

Barrell, William, Duke-street, Barrow, Lancashire, ironmonger; £13 14s. 6d. December 12.

Mayell, S. S., Walton-on-Thames, ironmonger; £12 9s. 10d. December 8.

Pahner, John Henry, Victoria-road, Six Ways, Aston, Warwickshire, bicycle manufacturer; £23 9s. December 10.

Rodgers, J. R., Coopers-court, Ebbw Vale, Mons., ironmonger; £10 9s. 2d. December 21.

Spenceclagh, William Brown, Chatham, ironmonger; £15 11s. December 19.

Symonds, G. B., Polten, Beds., ironmonger; £10 5s. 3d. December 11.

Buzzacott, John, Highbridge, Somerset, ironmonger; £12 1s. 10d. January 7.

Buzzacott, John, Highbridge, Somerset, ironmonger; £15 17s. 9d. January 2.

Cullen, John F., Deal, ironmonger; £12 5s. 5d. December 20.

Lovering, E. and W., Fowey, Cornwall, ironmongers; £31 4s. 8d. December 30.

Shippey, William, 217, Bow-road, ironmonger; £20 3s. January 3.

Smith, John, Roath, near Cardiff, ironmonger; £13 10s. 5d. December 21.

Weston, C. F., Godalming, Surrey, ironmonger; £14 7s. 9d. December 22.

Weston, C. F., Godalming, Surrey, ironmonger; £20 8s. 11d. December 8.

Jolly, David, Westgate, Bradford, ironmonger; £17 15s. 2d. January 9.

Pearcey, A. E., Lynchford-road, North Camp, Aldershot, ironmonger; £18 16s. 2d. January 7.

Sills, J. J. M., 326, Portobello-road, Notting-hill, ironmonger; £15 16s. 11d. January 7.

Price 6d. per Dozen.

HIRE AGREEMENT FORMS,

Drafted by Counsel,

Especially for the "Journal of Domestic Appliances."

AGREEMENT FORMS, for the letting out on Hire of Sewing Machines, Washing Machines Bicycles, Pianos, Gas Stoves, and other Domestic Appliances, can be obtained at 6d. per doz., post free from the office of the *Journal of Domestic Appliances*, 20, Wormwood Street, London.

PRELIMINARY NOTICE

IMPORTANT TO
SEWING MACHINE AGENTS.

"C. W. WILLIAMS"
MANUFACTURING CO.

OF

MONTREAL,
SEWING MACHINE
MANUFACTURERS

Beg to announce that they made arrangements with
Mr. JOHN TESTER (Many years connected with
BRADBURY and CO., Limited), for representing them
in Europe.

The Sewing Machine, manufactured by the **Williams Co.**, have earned a Wide Spread Reputation in the Dominion of Canada and the United States, for *Simplicity of Construction, Durability, and Beauty of Finish*; and Sewing Machine Agents and Dealers will be consulting their own interests by inspecting the Machines before placing their orders elsewhere.

For Terms apply to

JOHN TESTER

DR. JOHNSON PASSAGE,

BULL STREET

BIRMINGHAM.

THE
LIGHT-RUNNING
STANDARD
Has No Equal.



NONE SO SIMPLE,
NONE SO DURABLE,
NONE SO RELIABLE.

Examine it Before Purchasing any other.

RENNICK, KEMSLEY & CO.,
4 FINSBURY CIRCUS, LONDON,
ALSO,
Melbourne and Sydney.

STAY MACHINES.—A Manufacturer of Sewn Stays wants Addresses of Manufacturers of Sewing and Embroidering Machines or other tools concerning this Branch. Apply by letter to "2 T. T." care of Nygh and Van Dittmar's, General Advertising Offices, Kalverstraat, 62, Amsterdam.

WHO can supply Sewing Machines especially adapted for the Broidering of Travelling and Plush Covers. Address to F. 72,579, care of Messrs. Haasenssens and Vogler, Stuttgart.

ABerlin Sewing Machine Establishment, especially efficient in the manufacture of Singer A and Singer Hand Sewing Machines, wants to meet with buyers, everywhere, who require large quantities. Apply to W.O., 617, care of Messrs. Haasenstein and Vogler, Berlin, S.N.

OLD Established Sewing Machine Business to Let in Bristol. Lease. Every convenience. Mr. Dowling, 1, Nelson-street, Bristol.

AThoroughly experienced Traveller having an extensive connection throughout the United Kingdom, amongst Sewing Machine Agents, &c., is open to a good engagement.—H. N., 20, Wornwood-street, London, E.C.

FOR SALE.—5 Kimbell & Morton Family Heads, never used, been laid by, 15s. each. Tops for Do. 3s. each. Also a Ward Platform Machine, nearly new, 20s. National Sewing Machine Co., 37, Fetter Lane, E.C.

WANTED by practical man, 14 years experience in Sewing Machine trade, a Situation as Manager or repairer at home or abroad. Good references. Apply J. H. Greenwood, Tunstall.

WANTED by a Gentleman of 20 years experience in the Sewing Machine trade in Great Britain, a wholesale agency for first class German make of Machines, Singer system. Also Cheap Chain Stitch and Shuttle Machine. Address Alpha, Office of this paper.

JOURNAL OF DOMESTIC APPLIANCES AND Sewing Machine Gazette.

WE should not like to go so far as to state that the bicycle and tricycle have now attained the height of their popularity; indeed we do not think they have, but we firmly believe that time to be very fast approaching when they will speaking figuratively have reached their majority. Fashion, always a valuable aid to the popularity of an article, has of late, condescended to notice these iron steeds. Supposing the 'cycle to be as susceptible to praise and patronage as human beings, it must lately have felt the importance of its position and become very self-conceited. We find that the Prince of Wales, the Princess Mary of Teck, and the Khedive of Egypt have purchased machines from Messrs. Hillman, Herbert and Cooper; the Coventry Machinists' Company have also supplied a tricycle to the Prince of Wales; the Earl of Aberdeen has ordered a machine from the Centaur Company; a "Challenge" made by Messrs. Singer and Co., has so far an owner as the Princess of Wales; and we believe the Queen herself owns a tricycle made by a Coventry firm. In addition to this, only a week or so ago we find one of the leading "comics," depicting in its pages the Rotten-row of the future in which the aristocracy are riding tricycles followed by footman on bicycles. It may be only a humorous sketch, but it nevertheless has a certain amount of truth in it, and points out that the wind of fashion is blowing in a favourable direction for the increasing popularity of 'cycles.

We believe there is a much greater future for the tricycle than the bicycle. The latter will never be much more than it is now, an article of amusement; the former will become an article of utility. It requires but small prophetic powers to fortell, that bicycling will soon be the amusement of the "upper ten"; but that is not by any means its limit. It requires only to be produced at a lower cost and to be constructed to carry light luggage, when it will be used by the million of small tradesmen who cannot afford to keep a horse and cart and who require some quicker means of sending home their sales than that of the slow sleepy errand boy. Perhaps, ere long, other than pedal force will give the tricycle its motive power. We do not believe that it will be steam, but electricity. That great force curbed in and under the riders command he would be independent of horse or train. All the world may one day be riding on these machines driven at wondrous speed and as now apparently so fragile in construction that, as Scrooge said of the turkeys legs "it is a wonder they don't snap in two like bits of sealing wax."

MESSRS. BAINES AND FOWLER, Sewing and Washing Machine Dealers, of Langsett-road, Sheffield, have dissolved partnership. Debts of the estate we understand will be paid by Mr. W. H. Baines. Another firm also in the North of England has dissolved partnership, viz., Messrs. Barraclough and Thompson, Pianoforte and Sewing Machine Dealers, Barkerend-road, Bradford.

ABSTRACT OF SPECIFICATIONS.

(So far as they refer to Domestic Appliances.)

—:o:—

2832. Laundry Irons: F. A. K. Cook, Londonderry. 6d. 5 Figs.—Is for a combined smoothing and glossing iron. The body is hollow, tapered at each end, and heated by jets of gas. June 28, 1881.

2812. Sewing Machines: T. J. Denne, Red Hill, Surrey. 6d. 6 Figs.—Relates (1) to mechanism for operating the shuttle; (2) presser foot and feed appliances; and (3) a combination of appliances to be fitted to and actuated by an ordinary sewing machine to enable button-holes to be worked. June 27, 1881.

2690. Lamps for Sewing Machines, &c.: E. P. Alexander, London. (G. P. Desprin, Pujolos-de-Libourne, Gironde, France). 6d. 6 Figs.—The body of the lamp carries a screwed spindle and clamp by which it may be attached to the table of the sewing machine. June 20, 1881.

2722. Wax Thread Sewing Machines: W. R. Lake, London. (G. W. Copeland, Boston, U.S.A.) 10d. 19 Figs.—Relates to machines for sewing the out-sole to the upper and insole of a boot or shoe by a line of stitches passing from the exterior of the out-sole, making what is known as the "McKay" sewed boot or shoe. The invention comprises a revolving horn upon which the work is supported, stitching mechanism, a needle feed, a presser foot and needle bar, and mechanism for operating the whirl. June 21, 1881.

3120. Washing Machines and Kiers: H. Brandes, Hamburg. (T. Harbeck and A. Hasperg, Elmshorn, Prussia.) 2d.—Relates to machines in which a stream of boiling water passes through the material to be cleaned, and consists of a perforated basket which receives the material, and which has a reciprocating motion given to it within the boiler. July 18, 1881.

3110. Propelling Tricycles, &c.: W. H. Howorth, Clackheaton, Yorks. 2d.—The tricycle carries a reservoir of water connected by pipes to a pump which rotates a turbine. The pump is actuated by levers or wheels. July 16, 1881.

3043. Bicycles, &c.: G. J. T. Barrett, London. 2d.—Relates to attaching the saddles, the application of a sun-and-planet motion to the cranks, &c. July 12, 1881.

2999. Machine for Cleaning and Polishing Knives: H. H. Lake, London. (P. V. Godard, Paris). 4d. 6 Figs.—The handles of the knives are fixed, and the blades rest upon a plate over which a brush travels. July 7, 1881.

2955. Lamps for Burning Light or Volatile Oils: F. R. Baker, Birmingham. 6d. 5 Figs.—A roller is fixed at the top of each wick case, and over this roller the wick passes, the part which is doubled over the roller is ignited so that when the lamp requires trimming the charred part of the wick can be wound away and a fresh part exposed. July 6, 1881.

To the Editor of the "Journal of Domestic Appliances and Sewing Machine Gazette."

Princes End, Tipton, February 16th, 1882.

Dear Sir,—Will you kindly inform me through your Journal of Domestic Appliances for March, if possible, the address of the manufacturer of a machine to work button-holes in ladies' dresses, &c.; also if there is a machine to do gathering only, for dress-makers, and the manufacturer's address.

And oblige, yours truly, THOS. WINWOOD.

[The Wheeler & Wilson Company have an excellent button-hole attachment. The Singer Manufacturing Company make a button-hole machine, and the American button-hole machine (of which Messrs. Pearson & Co., 9, Acorn Street, E.C., are agents) makes a beautiful stitch. For a "gathering" machine address the Heberling Machine Company, 46, Cannon St., E.C.—Ed. J. D. A. & S. M. G.]

HILLMAN, HERBERT & COOPER

WORKS-COVENTRY.

97, CHEAPSIDE, LONDON.

5, LISLE STREET,
LEICESTER SQUARE, LONDON.

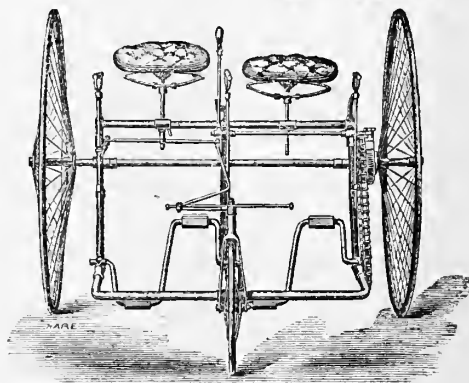
PATENTEES AND SOLE MANUFACTURERS OF THE

"PREMIER" & "ROYAL" BICYCLES & TRICYCLES.

To Their Royal and Imperial H's Prince of Wales,
Princess Mary of Teck, Khedive of Egypt, &c.

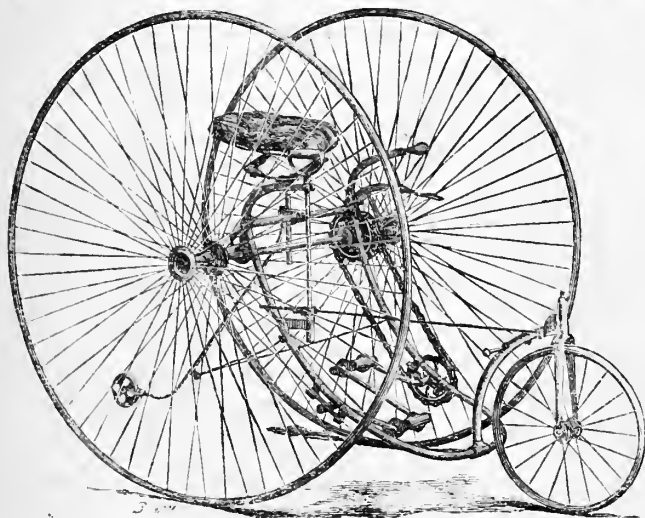
A similar Machine to the Illustration was exhibited at Stanley
Exhibition, and was purchased by the

STANLEY CLUB
FOR THE USE OF THEIR MEMBERS.

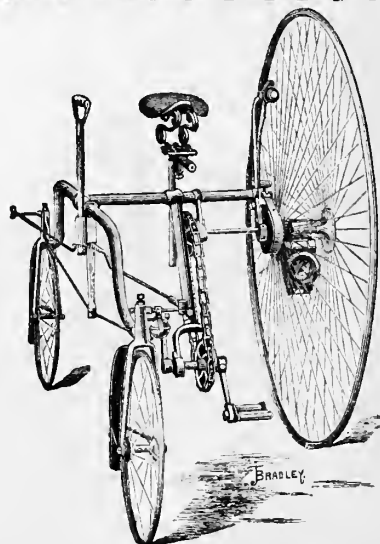


*As there were no Prizes, this mark of appreciation may be looked
upon as equal to FIRST PRIZE.*

D. RUDGE & CO., COVENTRY.



THE RUDGE DOUBLE DRIVER.



THE COVENTRY ROTARY TRICYCLE (Central Gearing).

The Championship of the World was won on a RUDGE BICYCLE. The longest Tricycle journey, in one day
on record, was ridden on a "COVENTRY ROTARY"—154 Miles in 22 hours.

Price Lists, and all information, free on application to the **WORKS, COVENTRY,** or
LONDON DEPOT, 12, QUEEN VICTORIA ST., E.C. MANCHESTER DEPOT, 162, DEANS GATE.

THE "STANLEY" BICYCLE EXHIBITION.

BY far the largest exhibition of 'cycles that has ever taken place was the above which occupying the spacious galleries of the Agricultural Hall was opened on the 9th ult., and continued to draw an immense crowd of visitors to "Merrie Islington" until the evening of the 18th when it was closed. Taking the exhibits on the whole they show what splendid finish it is possible to impart to these iron steeds. There are not any very startling inventions—such for instance an electric tricycle—but a great number of minor improvements have been made by manufacturers, most of them practical, and all tending to make the bicycle or tricycle as near perfection as it is possible for it to be.

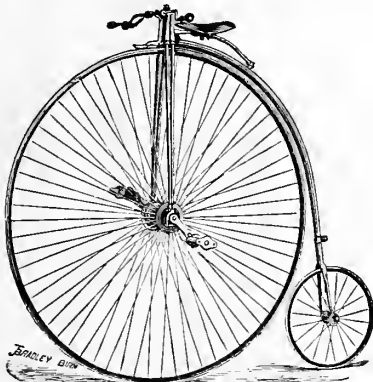
The exhibits are so many in number that it is impossible for us to describe them all at length in this issue; we shall conclude this report in April next.

MESSRS HILLMAN, HERBERT AND COOPER.

One of the largest and most widely known firms who manufacture bicycles and tricycles are Messrs. Hillman, Herbert, and Cooper. We therefore expected to see a good display of their manufactures; that we were not disappointed the following record will show.

The majority of their machines are christened after their works, hence amongst their exhibits we saw the Premier "D. H. F.," the "Premier No. 0," the "Premier Tricycle" the "Premier Sociable" and the "Popular Premier." Whether the latter be named after Gladstone or Beaconsfield we cannot say, the rider can suit his own political views in the matter but which ever it is, there is one thing very certain, and that is, that amongst 'cyclists the popularity of both the former is but small compared to the notoriety of their favourite machine.

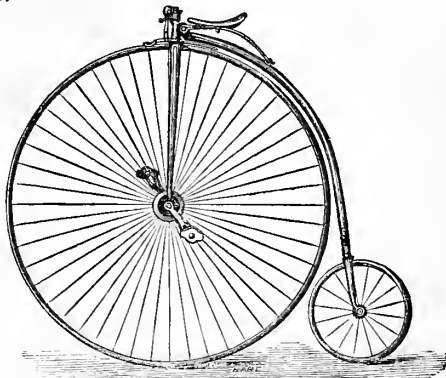
The "Premier D. H. F. Bicycle" is one of the most well known of their machines. If there be any truth in the saying that imitation is the sincerest flattery, then indeed this machine must be a



The "Premier D. H. F. Bicycle."

remarkably good one, since it is largely copied by other manufacturers. The "Premier D. H. F." has direct spokes in gun metal hubs, double ball bearings, front wheel, adjustable cones, hind wheel 3in. red moulded tyres front wheel, 3in. ditto back wheel, handles bent down, patent adjustable step, and elegantly japanned black and gold.

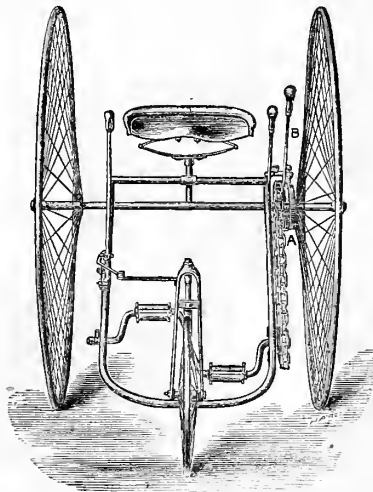
The next machine we noticed was the "Royal" bicycle which has been patronised by the Prince of Wales. It is similar to the "D. H. F." excepting the front fork, which has oval sides and Stanley head, with their patent long neck and counter board top centre.



The "Premier" No. 0 Bicycle.

The "Popular Premier" is another bicycle constructed upon the interchangeable principle, viz., each component is made in a special tool or machine, so that a backbone, fork, wheel, or any other part taken out of one machine will fit any other of the same diameter of driving wheel.

The "Premier No. 0" of which we give an illustration, is now a well known machine, the favourite of many bicycle riders, and is one of the best and cheapest in the market. It is standard pattern,



The "Premier" Patent Double Driving Tricycle.

has direct spokes in gun metal hubs, adjusted double ball bearings to front wheel, adjusted cones to back, 3/4 inch ditto back. It is elegantly japanned, and has best hogskin saddle.

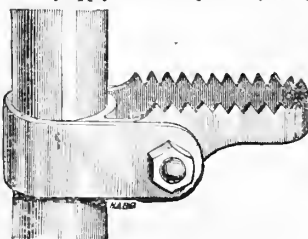
We had the pleasure of inspecting a "Premier" tricycle, specially made for H.R.H. Princess Mary, Duchess of Teck. The machine was beautifully got up, was nickel-plated all over, and was fitted with ball bearings to both pedals and wheels, and had a velvet plush cushion. We give an illustration of the ordinary make of this machine. Its principal feature is an automatic differential gear, by which the requisite power is transmitted to each driving wheel. There are at present very few tricycles in which both wheels are driven and in most of those which are so made, the arrangement is somewhat clumsy and complicated. In those cases where ratchets or friction clutches are used, one wheel ceases to drive coincident with the slightest deviation from a straight line in the running of the machine, and only when travelling in a dead straight line are such machines double drivers. In this machine the exact proportion of power required (which varies with every movement of the guiding wheel) is imparted to each of the driving wheels. For example, when turning to the left, the right hand or outer wheel



HILLMAN HERBERT & COOPER'S
"PATENT DOUBLE ACTION SPRING"

receives the larger proportion of power, and in turning to the right *vice versa*. The power imparted varies in exact proportion to the radius described by each wheel. Of course, when running in a straight line, the power given to each wheel is equal. The chain pulleys and the spur wheels in connection with the differential gear are all cut by elaborate machinery instead of rough cast as is usual in similar cases. The brake is a steel friction band, on a drum, and affects both wheels equally. The frame is weldless steel tube throughout. The material is of the very best. Both driving wheels are fitted with ball bearings.

The "Premier" Sociable Tricycle is a machine nicely got up. It has patent balance driving gear, as in the "Premier" tricycle for one person, so that although having one chain only, it drives both wheels. The frame is of weldless steel tube, and the machine extra strong throughout. The chief speciality, however, is their patent guiding arrangement, whereby the gentleman (who, when driving with a lady, of course steers the machine) is enabled to sit on the off, or right side, and thus screen the fair one from danger of passing vehicles. The brake is fixed in the centre of the machine, so that both riders may apply it on exceptionally steep hills.



Patent "Adjustable Step"

A tricycle similar in every respect to the one just described is the "Royal," only that it is fitted with "Starley's Patent Salvo" balance gear, for the use of which Messrs. Hillman, Herbert and Cooper have taken out a licence. A machine that will please the youngsters, and which is very moderate in price, is the "Youth and Child's Tricycle," lightly and well made and of good materials. The "Flying Dutchman" another of their manufactures is a single driver tricycle, has double brake acting on both wheels, with automatic adjustment.

As most of our readers will know that for comfort on roads which are not too smooth, there is nothing like a good spring to a bicycle. This firm has produced a patent double action spring, which can be attached to any bicycle no matter what be its make. It has the

same elasticity as an ordinary spring of twice its nominal length. It requires little or no oil, having no pin joints; it is of one uniform curvature, and therefore not liable to fracture. Its action is to spring in every direction with the least movement of the rider.

It is constructed of two plates of Swedish steel, connected at their ends in a perfectly novel way, which allows the most perfect freedom without the use of the usual pin and joint. The lower half has a longitudinal slot made wide enough to allow the backbone to pass through, so that none of the available space between the saddle and the wheel may be lost. It is complete in itself, being attached to the backbone by a neat steel clip.

A good step is also made by this firm, it is entirely of steel, it is no heavier than an ordinary one of the lightest kind. It can be attached or removed by any one in a few seconds, placed on either side of the backbone, and at any angle, raised or lowered from 4 to 6 inches. It is suitable for the tapered part of the backbones made of 1 1/2 in. tube (the size now in general use for bicycles), and in two sizes. No. 1 when only one step be used. No. 2 for a second step to fix higher on the backbone when two steps are required.



Improved "Yankee Wrench."

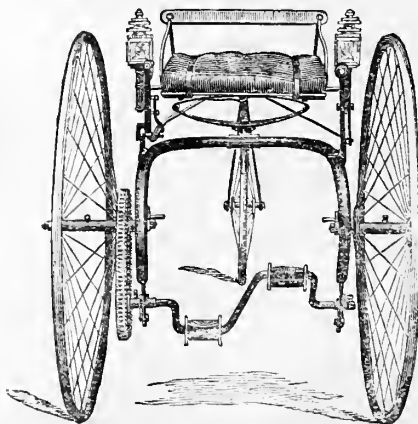
An improved "Yankee Wrench" is sold by this firm. There are no people like the Americans for really clever little inventions. This article which can be carried in the pocket without inconvenience, will fasten and unfasten nuts of any size up to half an inch. Its strength is such that we should not care to break it with our hands, however iron-like our wrists might be.

In conclusion we may add that the whole of their exhibits, like the usual run of their manufactures, are soundly made and well finished. They require only to be seen to be appreciated and are such that to extol their excellence they need not "the painted flourish of our praise."

(See Advertisement, Page 26)

MR. T. HUTCHINGS.

This gentleman exhibited the machines of Messrs. Starley and Sutton, of Coventry, who have christened the majority of their manufactures with the name "Meteor." Hence at their stand we found the "Meteor" tricycle, the "Meteor" sociable, and the "Meteor" bicycle. It is true we were favoured with a view of a "Princess," but the "Meteor" holds it own unsurpassed by even

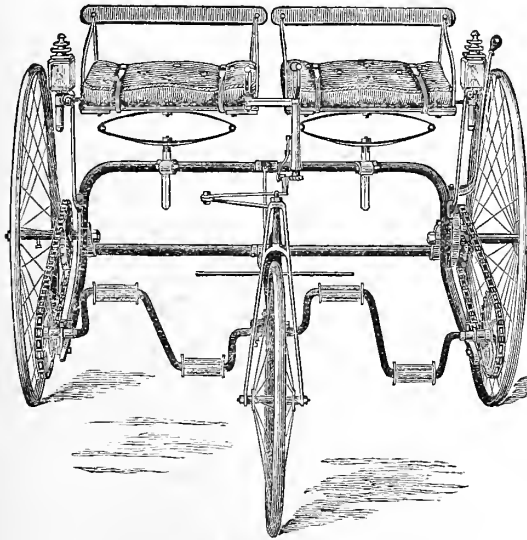


The "Meteor" Tricycle.

so great a personage. The "Meteor" tricycle is a light yet strong machine, and it weighs only 65 lbs. and is capable of carrying with-

out suffering injury or strain the heaviest of Tichbornian riders. Any would-be rider, however heavy, need not indulge in a course of anti-fat previous to riding the "Meteor." This machine (of which we give an illustration) is fitted with a new hind wheel brake which, by a thin connecting rod, is applied in a similar way to the grip brake of the bicycle; this leaves the handle perfectly rigid. In descending hills it will at once be seen that this is a valuable addition to the machine, as a rider with no more courage than that possessed by Mr. Winkle, of Pickwickian fame, would feel quite as safe as he would on a level road. The "Meteor" is fitted with their patent universal bearings, and has best rubber tyres and direct spoke wheels screwed into gun metal flanges. It has a comfortable cushioned seat, and a lamp holder. It is propelled by the rotary or bicycle action with multiplied gear, by means of which, although only 40-in. front wheels are used in the ordinary size, the same speed is obtained as from 50-in. ditto. It is made any width from 2 feet 6 inches to 3 feet 6 inches (ordinary width from stock 3 feet 3 inches), or by unscrewing a nut one of the side wheels can instantly be removed, reducing the width from 3 feet 3 inches to 2 feet 6 inches.

A very similar machine is the "Meteor" sociable. It is strong and yet light and, as will be seen from the illustration, it opens in



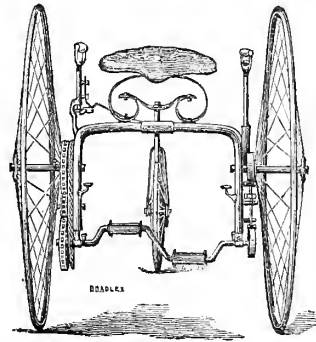
The "Meteor" Sociable.

front like the single machine of the same name. The machine is fitted with new registered seats, oil can, and spanner. It is just the sort of conveyance that we should like to take a holiday in, accompanied with a sociable companion. We would soon leave London in the rear.

THE CAROCHE TRICYCLE COMPANY.

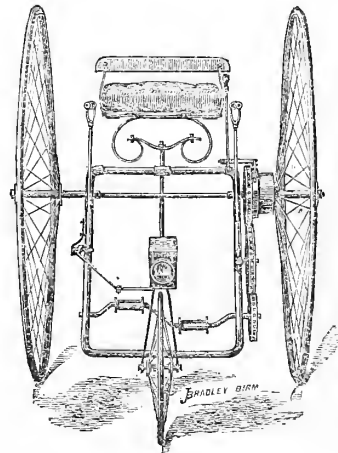
A variety of tricycles are made and shown by this Company, all, of course, named the "Caroche." For ladies' use their No. 2, or as it is called "Ladies Caroche" is well suited to the locomotion of the fair sex. It is fitted with a suspension seat well cushioned, is very light in appearance and has a good strong serviceable brake; three points necessary in a machine built for the fair sex. The tricycle, of which we give an illustration, is a very similar machine only it is fitted with an "automatic band brake," by the application of which both driving wheels are acted upon simultaneously; it is worked by an inner handle fixed inside the steady handle, and can be applied at the will of the rider.

The newest improvement this firm have made is that of adding to their patent steel ball wheel a most novel combination of circular gearing, which, fixed on the main shaft of both driving wheels, consists of two internal toothed wheels, one of which, being at the side of the hub, runs loose, while the opposite one remains stationary, enabling the machine to turn round the sharpest curves



Machine with Automatic Band Brake.

in the smallest compass with perfect safety. This firm have fixed to their "Double Driving Machine" a large centre ball wheel, by which they have considerably reduced the driving friction, and it is now one of the easiest propelled machines of the day. The pedals and crank are direct under the rider, thereby giving most powerful impetus in the ascending of the steepest hills. It is fitted with a powerful band brake of a new and improved construction. The



Double Driver.

machine is manufactured of the best weldless steel tubing, it has steel crescent rims to driving wheels, red rubbers, and adjustable seat. The stock sizes are 44 and 46 inches. For children two or three descriptions of tricycles are made, sociable and single. They are light, strong, and in every way suited to please the youngsters.

For any further particulars than those already given, we refer our readers to the Company, who will willingly send their illustrated price list, post free on application.

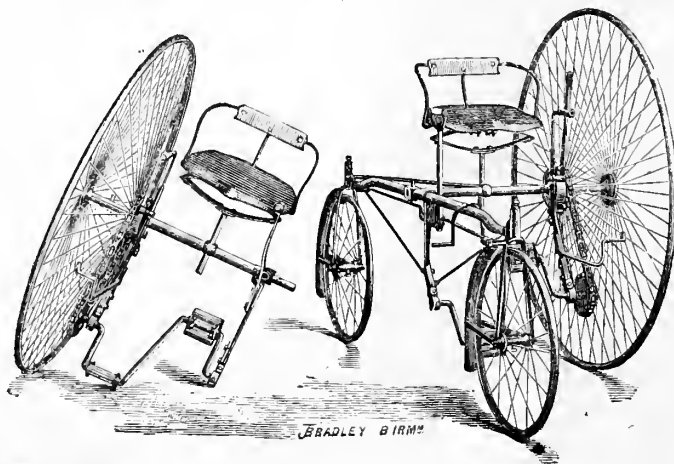
MESSRS. D. RUDGE AND CO.

For both road and racing purposes the "Rudge" bicycle is especially noted. The machines made by this firm are used by many of the leading amateurs and professionals of the day, and when we have said that they have gained gold medals at the exhibition in Edinburgh, that they are made with D. Rudge's patent adjustable ball bearings, and are constructed of the best materials we have paid them the compliment they deserve.

The "Coventry Rotary Tricycle" exhibited by this firm has its steering effected by a rack and pinion acting on both the side

steering wheels have 25 per cent. of the weight upon them, it follows that even if one is off the ground from stones, or rough road &c., that the other has more than sufficient weight upon it to guide the machine.

Any one first glancing at the illustration below might suppose that machine was anything but a follower of Sir Wilfred Lawson. It is however only the Coventry Convertible taken in pieces to pass through a doorway, it is the most rapidly "Converted" machine yet out. We have heard that the Salvation Army make some surpris-

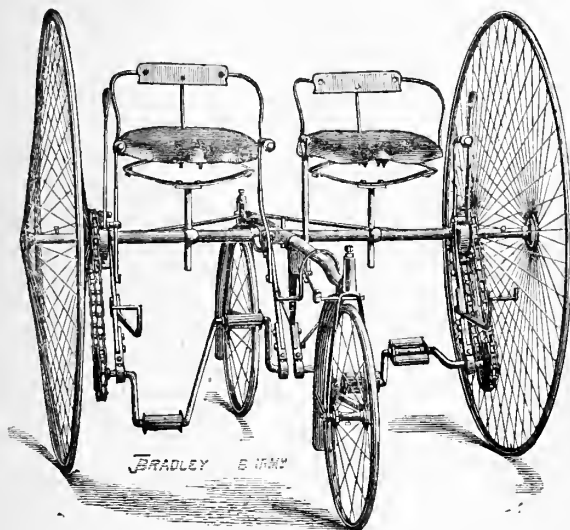


The Coventry Convertible (divided to pass through a doorway)

wheels; no matter at what pace the machine may be driven, or how rough the roads may be, the guidance of the tricycle still remains perfectly under the control of the rider. As may be seen

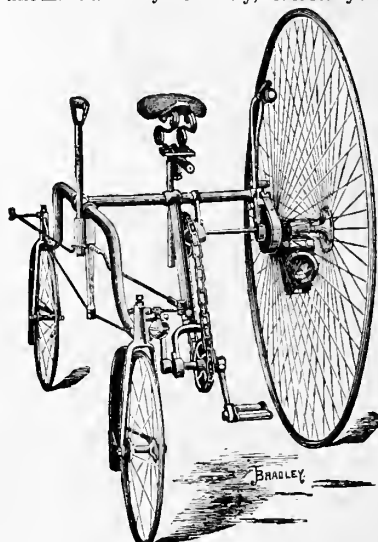
ingly quick conversions, but in this department they are quite surpassed by Messrs. D. Rudge & Co.,

This firm also make a "Lady's Coventry," it is really a little gem



The Coventry Convertible.

from our illustration, the weight of the rider is so placed that it is equally distributed on the driving wheel and the two steering wheels. This gives sufficient adhesive power to the former to prevent it slipping when being driven up the steepest hills, and as each of the



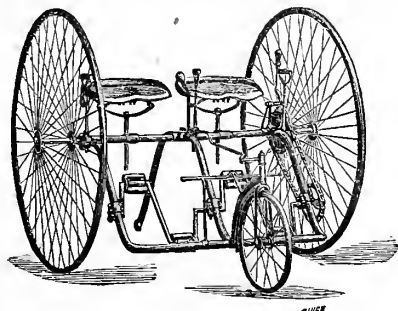
The Coventry Rotary Tricycle No 1.

it has a nicely embroidered saddle, bright plated wheels, and ball bearings to all parts. Other machines made by Messrs. Rudge are a "Double Driver" Tricycle and a "Single Driver" Tricycle, but they are not exhibited.

(See Advertisement Page 26).

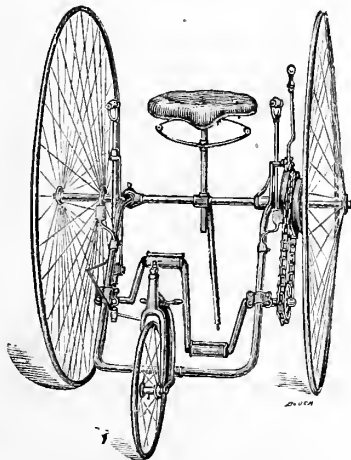
THE "COVENTRY PHOENIX" TRICYCLE COMPANY.

All the machines exhibited by this Company are double drivers, and are fitted with Pritchard's Patent (No. 4,653) for Improved Transmitting Motion, which automatically drives both large wheels, either forward or backward. We give an illustration of the "Coventry



"The Coventry Phoenix Sociable."

Phoenix Sociable Tricycle." In this machine the weight of the riders is well balanced upon the two driving wheels, but a steel tube arm, with small wheel attached, coming from the back of the seat bar, prevents the machine from tipping backwards. The cranks of this machine are made in quarter sections (as in locomotive engines), to avoid all dead points. This gives an ease and steadiness in ascending hills which cannot be attained in any other way. The machine is firm, strong, and light, and is made of the first quality materials. Its axle is enclosed in a tube. A very similar machine is the "Coventry Phoenix No. 4." It has a frame of welded



Coventry "Phoenix" No. 4.

steel tube and only one tube arm behind, to prevent the machine tipping backwards. All the machines made by this Company have their wheels so constructed that they can be readily taken off; they have also brakes acting on both wheels, and adjustable handles. A very few minutes' inspection is sufficient to show that they are machines on which much care and thought must have been expended to bring them to their present state of perfection.

MESSRS. BRICKNELL AND CO., LIMITED.

Merlin, in the time of King Arthur, was a sage old man, who lived in the wild woods of Broceliande, and was supposed to be the possessor of some wonderful secrets and charms. The "Merlin"

we have to do with is altogether a different being, in fact, it is not a being at all. The "Merlin" is the name that Messrs. Bricknell and Co. have chosen to call their bicycles and tricycles, why we cannot say. We will first take the "Merlin" bicycle. This machine is specially recommended on account of its safety, economy of muscular force, speed, and hill-climbing power. As will be seen by our illustration, the saddle is placed further back than in the ordinary bicycle, but at the same time the rider is quite as much directly over his pedals. Power is applied to the pedals on the inner ends of two levers, the outer extremities of which work on centres attached to the framework. A strap fastened to each is carried upward and coiled round a small loose pulley or "drum" on each end of the axle of the driving wheel. On the same axle are fixed two short radial arms, each carrying a silent pawl. When the treadle is depressed the strap draws round the pulley, which engages by means of ratchet teeth with the pawl, and so the wheel is revolved. A spiral spring enclosed in the pulley rolls it back, coils up the strap, and raises the pedal for the next stroke. Strokes of any length, from one to twelve inches can be made at will. The machine is free from dead points and the friction is much less than that of an ordinary bicycle. As the rider's feet are near the ground there is less risk in mounting and dismounting. In the "Merlin" the pedal does not revolve, but is fixed; there is therefore no friction in it. The driving strap, too, is free from friction, having a rolling, or winding and unwinding movement only, and not a rubbing one. The power used to wind up the spring concealed in the pulley is given back as assistance in raising the foot for the next stroke, so that no power is lost by this means. A bicycle or tricycle may be made large, or it may be "geared up" in many ways, so that the rider's force may be converted into great speed on favourable ground, but the machine will be proportionately less powerful when ascending hills, or it may be made small, or may be "geared down" for hill climbing, but then it will be slow. Every one acquainted with the science of mechanics is aware that what is gained in speed is lost in power, and *vice versa*. The "Merlin" bicycle is not based upon any attempt to convert the one into the other without proportionate loss, but its successful combination of power with speed is due to the disconnected action of the lever treadles whereby the rider is enabled to effect his return stroke more quickly than his acting stroke when travelling at anything less than his maximum rate. In ascending hills this is a matter of great importance, as it secures the full exertion of the force of one leg before the other has ceased to act. They are therefore then more or less acting together, and it must be borne in mind that the greatest economy of muscular force, or, which is the same thing, the best effect, is obtained from the employment of as many muscles as possible, and dividing the effort between them, rather than concentrating it upon a few. Also, the effort should be as nearly uniform as possible; and both these advantages are secured by the use of treadles disconnected with each other and wholly free from dead points. The "Merlin" is noted for the steadiness of its steering, and also for the arrangement whereby the saddle and handle bars can be raised or lowered quite one foot to suit the height of the rider. It has a brake on the front wheel, which is applied by the foot. To our mind, this machine is a sensible invention which will be well patronised as soon as it becomes well known.

The same company also manufacture a tricycle embodying all the improvements of the bicycle. There is direct application of power, without cranks, chains, or gear wheels. The wheels are 36 inches, and are speeded up to equal 60 inches, but the power or speed of both the Merlin bicycle and the Merlin tricycle can be regulated by the rider to suit his convenience or the character of the roads in his neighbourhood or the season of the year, by simply employing longer or shorter driving straps, which, by being coiled more or less upon the driving drums, increase or decrease their diameters. The width of the Merlin tricycle outside being only 29 inches it passes through any ordinary doorway, and yet the width between the tracks is equal to that of some well known makes. The brake is very powerful; it acts on both wheels, and can be relied on in descending very steep hills.

THE ROYAL MACHINE MANUFACTURING COMPANY, LIMITED.

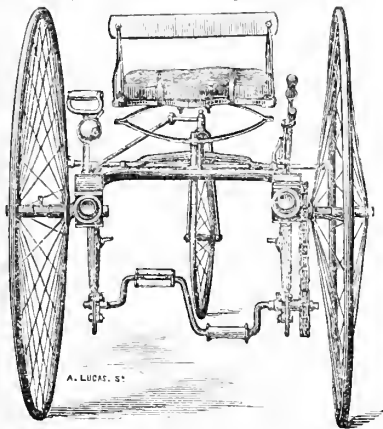
This company who for some long time past, have manufactured sewing machines—notably the “Shakespeare”—about a year or two ago commenced to make bicycles embodying in them several valuable patents. Finding success attended their efforts, they followed it up with the manufacture of tricycles, and as these new industries rapidly grew into a large and important business, they wisely changed a few months ago the style of their company from that of “The Royal Sewing Machine Company, Limited” to that at the head of this report. We think their display one of the best, although they are comparatively new in the field and their name not known to all in the bicycle world. That it speedily will become popular, an inspection of their machines is sufficient to clearly predict and it will be also associated with some of the best bicycles and tricycles extant. Their manufactures are named partially after the company, thus we have the “Royal Mail” tricycle, the “Royal



“Royal Mail” Bicycle.

Mail” bicycle and the “Royal Mail Sociable.” A rural postman would certainly find one of their machines a more pleasing and certainly less refractory steed than their “Jerusalem pony” on which they are wont to ride.

Their “Ladies Royal Mail” tricycle is a neat little machine, opened fronted, powerful brakes to each wheel (a great desideratum in a ladies machine) ball bearings, dress guard attached. Their “Royal



“Royal Mail” Tricycle, No. 2.

Mail Tricycle No 2” which is an enlarged edition of the one just described and has two equal front wheels, which can be readily taken off so as to allow the machine to pass through the smallest door-way. It has a powerful double brake, which will enable the

rider to stop immediately in descending the steepest hills. It is driven by means of an endless chain. The frame is of the best weldless steel tube, and is so made that the pedals are brought directly under the rider, so that the machine can be driven with the greatest rapidity. The seat is adjustable; it can be raised up or down, and moved forwards or backwards, according to the requirements of the rider. The steering is simple and effective; two handles are placed in the front, one turns the steering wheel at the back, while the other is for support, and to it is attached a separate brake handle. The rider sits on a nicely cushioned spring seat, and there are rests for the feet when going down hill. The machine is thoroughly well made. It is neatly japanned and ornamented; and moves with wonderful ease, and is a very good hill climber.

A Sociable was also shown by this Company; it is a well made machine, similar in build to the one just described. It can be fitted with two or three seats, as desired. For bicyclists this company make the “Royal Mail” bicycle. It is a machine of the well-known Stanley type, but has one important feature, a patent adjustable handle which can, by the simple turning of a nut be raised or lowered to suit the rider.

THE NATIONAL ARMS AND AMMUNITION COMPANY LIMITED.

This company exhibited a really good tricycle which they have christened the “National.” The chief feature of this machine is the “Patent Differential Axle,” whereby a perfect distribution of the power transmitted to the pedal cranks to the two driving wheels is maintained, no matter in what direction the machine be driven, whether forward, backward, or curvilinear. To this peculiar merit is attributable the extraordinary ease in turning even the sharpest curves. It is well known that in all tricycles the act of turning, or even the slightest deviation from a straight course, causes a difference in the relative speed of the wheels, and that it is therefore very desirable to provide efficient means for permitting their automatic adaptation to any variation of the path, without releasing or disconnecting them from the driving mechanism. The “National” is a good hill climber, has a powerful brake and can be used with either seat or saddle. Hence from its general light construction and its safety it can be used by the fair sex. The machine is made of good materials and is well finished. We should mention that the driving wheels can be easily and quickly, detached so that the machine may be readily taken through an ordinary doorway.

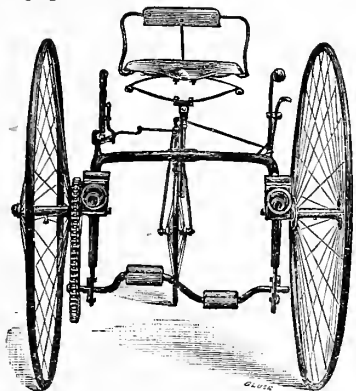
MESSRS. MORTON & CO.

Certainly a novel invention in bicycles was shown at this stand. It is called the “Libra” tri-bicycle. It is a machine very closely resembling in appearance an ordinary bicycle but it is so constructed that at the will of the rider the hind wheel can be instantly made into two separate ones standing a foot or so apart, thus enabling the machine to stand still when required without falling.

Presuming a rider to be mounted upon one of these patent tri-bicycles and he sees a friend on the pavement or roadway with whom he wishes to converse, he can, by moving a double-locked lever in front of the saddle cause an instantaneous separation of the trail wheel, permitting the bicycle to stand erect and motionless; after conversation, and desiring to proceed again he can apply the lever, and with one revolution of the front wheel it becomes once more a bicycle. The saddle is a marvel of improvement, being divided in two parts, permitting involuntarily the weight and strength of the rider to be imparted simultaneously to the treadles, thus obtaining an increased speed with less fatigue; besides which it has a rocking motion so essential to the comfort of a rider, particularly over rough roads. To prevent vibration the handles and treadles are atmospherically inflated. As a preventive against danger it is apparent this machine is a vast improvement on an ordinary bicycle, while of course it is much easier learnt.

MESSRS. J. DEVEY & SON.

The "Express" bicycles and tricycles were shown by this firm. As we compare their tricycle with their price list, it strikes us as being exceptionally low, considering that the machines are well made of sound materials. This firm has long had success in bicycle making, and a year or so ago they commenced manufacturing tricycles. The machine they exhibit, embodies every good feature of a high priced machine, while it comes at a moderate cost.



"Express" Tricycle.

It is fitted with their patent universal bearing, a comfortably cushioned seat, best rubber tyres on wheels, and it is propelled by rotary or bicycle action, with multiplied gear, by means of which although only 40-in., front wheels are used in the ordinary size, the same speed is obtained as from 50-in. ditto. They are made any width from 2-ft. 6-in. to 3-ft. 6-in. (ordinary width, 3-ft. 3-in.) or, by unscrewing a nut, one of the side wheels can instantly be removed, reducing the width from 3-ft. 3-in. to 2-ft. 6-in.

(See Advertisement Page 39)

MR. H. J. PAUSEY.

Mr. Pausey exhibited the "Pioneer University" bicycle and tricycle. The "Pioneer" bicycle is a machine fitted with ball bearings, extra large gun metal hubs, detachable cranks and every improvement of the day. This machine is of the Stanley pattern. An inspection of his exhibits proves that they are all made by mechanics who understand their work. This is especially noticeable in the "Pioneer," which is carefully finished. The other machines are also well made, but as they come at a cheaper price so much time has not been spent in their manufacture. The "Pioneer" tricycle is a machine produced at a moderate price, while it is well built and of good materials. These exhibits show that good machines can be made in the south west of London, although it is not a bicycle manufacturing district.

MESSRS. ELLIS AND CO.

There are, and we suppose there always will be, a certain percentage of people who are not altogether willing, even for the pleasure of riding a bicycle, to risk the many ills that flesh is heir to when poised on a high machine worked by inexperienced legs and guided by unsteady timorous hands. We have not all the fearless courage of Richard Cœur de Lion, and have therefore a certain amount of respect for our shins, arms, and heads. Strange to say, there are many who prefer them whole than broken, and so they reluctantly relinquish the learning of the bicycle and its attendant "croppers." To these, and to all who prefer a less risky steed, Messrs. Ellis and Co. offer the "Facile Safety Bicycle." The special feature of the machine, and that which distinguishes it at once from any other is the position of the treadle, which is brought and always remains both below and behind the centre of the front wheel. This arrangement secures two most important results: (1) The rider may use, if he chooses, an exceedingly small machine, and still make full use of whatever length of leg he possesses; and (2), he is placed in the very best position for exerting his power, viz., immediately over his work; so that his whole weight and strength can be utilized. There

is little danger of falling, because all the pressure is exerted in the wheel base, so that the rider sits immediately over his work, and yet keeps a fair proportion of his weight upon the back wheel. There is thus no danger of falling over the handles. The "Facile" can be easily mounted or dismounted, it can be learnt quicker than an ordinary bicycle, and it is an admirable roadster. It has a spoon brake, and as the weight of the rider is not so forward as in an ordinary machine it can be used to any extent with perfect safety. Almost any hill may be ridden down with confidence, and the machine brought to a standstill on a very steep slope.

MR. GEORGE SNELLING.

This gentleman exhibited the "Antelope Bicycle" a machine now made with his single ball break back wheel bearings. An inspection of the "Antelope" certainly shows that considerable care has been bestowed on its finish, and that its manufacturers are mechanics

MESSRS. HICKLING AND CO.

At the stand of these exhibitors were shown the "Pilot," "London," "Timberlake," "Berkshire," "Pilot Tricycle," and "Telescope Tricycle." It would require a considerable amount of space to set forth in detail the various virtues of these machines, for a few minutes' inspection is quite sufficient to show that they possess good qualities, and many. The "Pilot," a beautiful machine introduced last season, is now a very well known roadster. It has ball bearings to both wheels, broad hollow front and back forks, 26-in. dropped handles, special rubber-insulated spring with back and forward play (yielding the rolling motion appreciated by many riders) undetachable tyres, &c. A new machine to the Stanley Show is their "Pilot Racer." It is a machine somewhat similar in construction to the "Pilot," but of course lighter. The "London" looks a good roadster; it is graceful in appearance and well finished. We noticed an old friend in the "Timberlake;" it has been some long time before the public but has lost none of its fame by age. It is a good machine for hills. The "Berkshire" is a thoroughly well made machine. Made with roller bearings, semi-hollow forks, and carefully finished off, it is, as it should be, a great favourite. Those of our readers who have seen the way in which those patent opera hats compress into a small compass will have some idea how the "Telescope" tricycle is conveniently doubled up in order to pass through a doorway where space is limited. This is without doubt a handsome machine, and since last season it has been much improved on. The "Pilot" tricycle is a machine of the popular open-fronted, hay forked pattern. It is a double driver, with a neat arrangement for driving backwards, to be applied at pleasure also a powerful brake. The whole of the exhibits of this firm, like their ordinary productions, shows trace of careful workmanship, while the materials used, are of the best quality.

On this stand was also exhibited a 54-in. "London" the property of Mr. C. Cressy, of Gravesend, which has been ridden upwards of 12,000 miles. The bearings, tyres, &c., are the same as originally fitted to the machine, which looks quite equal to another season's wear and tear.

MR. D. G. WESTON.

The chief feature of this machine the "Weston" is that by the action of the steering handle the right wheel is thrown out of gear when turning. At other times it is a double driver. The machine is open fronted, has double brake, Bowas ball bearings &c. The machine is remarkably well finished.

MR. W. T. EADES.

Three tricycles were exhibited by this manufacturer, the "Monarch" (double driver) the "Monarch" (single driver) and the "Young Monarch." The double driving machine has pedals suspended, like stirrups, from the cranked axle to which the wheels are attached. Its seat is held high on an Arab spring. It has a simple frame, is open fronted and neatly made. The single driver is a good machine at a less cost. When looking at this machine the bicyclist can say not only "I am Monarch of all I survey" but all I survey is worth owning.

THE CENTAUR 'CYCLE COMPANY.

Undoubtedly the greatest novelty in the Exhibition was the "Centaur Four-in-Hand," exhibited by the above Company. It is, as its name denotes, constructed to carry four riders, two of the fair and two of the sterner sex, all facing front and pedalling forwards. The ladies are on soft-cushioned seats, the gentlemen on saddles. In size and weight the "Four-in-Hand" is little in excess of an ordinary "Sociable," thus the additional pedalling from its two extra riders renders its propulsion so much easier. Our illustration gives a pretty correct idea of this machine.

On the stand of this Company we noticed the "Convertible" tricycle, which will divide in the centre to pass through an ordinary

called the "Northern Racer." It has already carried off the palm in many a hard contest.

THE LONDON CHAMPION BICYCLE COMPANY.

A bicycle produced at a low figure for road or racing is exhibited by this Company. It is the "London Champion." The following is its description:—The front wheel contains 60 plated spokes, screwed direct into gun metal hubs, fitted with double ball bearings. Cone bearings to back wheel, hollow forks and Stanley head, spoon brake. The weight of machine does not exceed 35 lbs. It looks strongly constructed, while it is at the same time not too heavy for racing purposes.



"The Centaur Four-in-Hand."

doorway, and in $3\frac{1}{2}$ minutes it can be converted into a single machine. It is so constructed that its bisectibility does not lessen its rigidity. In its single form it runs as lightly in proportion, and steering from the side has the advantage of only making two tracks; the advantage of being able to use the machine in a single, as well as a sociable form needs no comment. At this stand were also exhibited the "Centaur No. 1," an easy-running tricycle; the "Special Centaur," a front-steering tricycle, fitted with Ball Bearings and Patent Automatic Gear, which transmits equal driving power to both wheels, with the same action, either backwards or forwards; and a D. H. F. "Centaur" bicycle, a machine strongly-built yet light enough for racing.

THE NORTH OF ENGLAND BICYCLE COMPANY.

Newcastle, although absorbed in its coal trade, has a few other industries, although of course considerably smaller in importance. Amongst these is the manufacture of bicycles.

The stern, grimy sons of the North find time for recreation sometimes, and one of their favourite amusements is that of bicycling. That they boast of a factory in their midst capable of turning out good machines is certain, as the exhibits of that factory at the show testified.

A good roadster is the "Northern No. 1." It is carefully built of good materials, has new steering arrangement, spoon brake attached. For racing purposes this company construct a very light machine

MESSRS. SETTLE & CO.

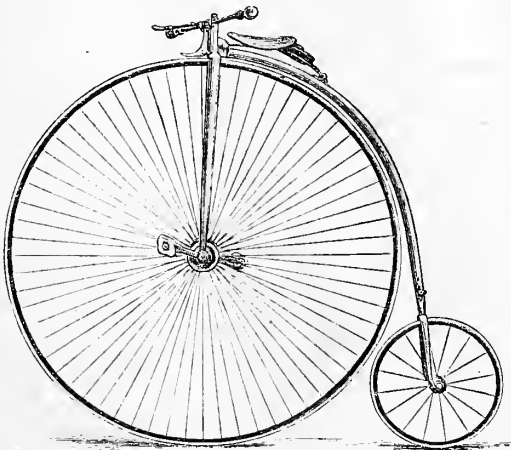
A most beautiful double driving tricycle "The Fleet," was exhibited by this firm. It is a front steering machine, exceptionally neat in appearance. Its frame as will be seen by our illustration, is simple yet elegant, its mechanism novel in construction, and thoroughly effective. The orake is a strap acting on the driving mechanism, and affecting both wheels equally. The steering is effected in the usual way by a rack-and-pinion, but the teeth of the rack are cut in the side, and quite concealed from view. A mud-guard is fitted over the rudder wheel, and two roughened foot-plates form steps on the lower part of the main frame, whilst foot-rests project from each side the rudder (Stanley steering) backbone, and a "tail" with roller secures the rider from an upset rearwards. This machine is most carefully made and weighs only 80lbs.

MESSRS. J. STASSEN AND SON.

The "Nonpareil" tricycle was exhibited by this firm. It is an elegant, light, yet strong machine, suited for road or racing. Its makers are practical engineers, who have had long experience in bicycle-making. The "Nonpareil" is made with all the improvements that bicycles usually have, and also an eccentric brake, the patent of the manufacturers, which can be applied with wonderful strength in an emergency. It does away with jarring on the hands often experienced in ordinary brakes.

THE COVENTRY MACHINISTS' COMPANY, LIMITED.

By far the largest exhibit of the show was that made by the above company. On their stand were shown close upon forty different bicycles and tricycles all most excellently made and finished with the greatest care. In bicycles were exhibited the "Club Racer," the "Special Club," the "Universal Club," the "American Club," and the "Boys Own." The majority of these machines are so well known as to make description almost superfluous. Their names are "as familiar to our ear as household words." They are patronised by all the best riders at home and in the colonies. The "Club Racer" is a splendid machine, lightly built, (ball bearings to front and back wheels) was exhibited in several different colours of paint and also nickel plated. The improved "Special Club" a somewhat similar machine, and the "Universal Club" attract the attention of the passer by. They are painted in a variety of different tones of colours in which great taste is shown. These machines have all ball bearings and a vast number of improvements patented by this well-known company. The "Universal Club" is a highly finished machine, and the specialite for 1882. The price for any size up to 56 in. is £15 15s.



"The Universal Club."

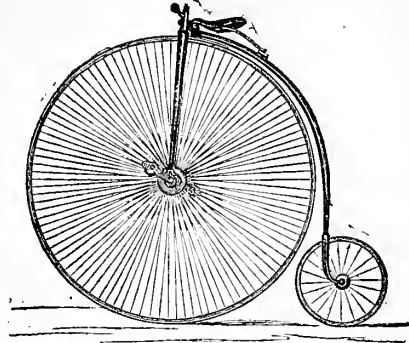
A grand display was made in tricycles. The most tastefully got up machine of the exhibition was to our mind the "Cheylesmore Club" painted blue and gold. It was fitted with ball bearings to all wheels, crank, axles and pedals. This machine was exhibited in different kinds of "get up" and one also was exhibited especially constructed for the fair sex.

For those having narrow doorways the new patent "Folding Cheylesmore" is especially constructed. Other machines shown were the "Club Sociable," one of the best tricycles for two riders in the show, the "Special Club" and the Imperial Club." The works of this company as its name denotes are situated in the "city of the three spires"—Coventry, but shippers having indents to fill will find samples and stock of these machines at the London show-rooms, 15, Holborn Viaduct. OUR ILLUSTRATED SUPPLEMENT in this issue represents some of the above-named cycles.

MESSRS. W. G. LEWIS AND CO.

On the stand of this manufacturer we find the "Speedwell," the "Hollow Fork Speedwell," the "Hollow Fork Britannia," and the "Climax" bicycles, also we notice the "Speedwell" tricycle. We will begin with the "Speedwell" Bicycle. This is a machine which Messrs. Lewis have manufactured for sometime past, but have continued to improve in minor details, so, like good wine, its value is anything but injured by age. It is a strong machine, well finished, and is produced to meet the requirements of that class of people who cannot afford an expensive luxury. The

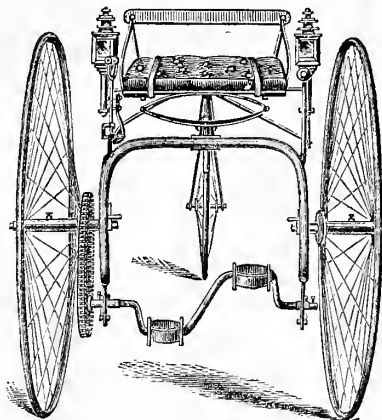
steering arrangement is of the newest Stanley pattern, with steel hardened centre. The handle bar is screwed in front of the head



"The Britannia."

and is fitted with ebony handles, while the forks, wheels, and other portions of the machine are made of good materials.

The "Hollow Fork Speedwell" is a machine in similar style, is a first class roadster and fit for all work. The "Hollow Fork Britannia" is a good machine suitable for light road work or racing. It is graceful in appearance, close and compactly built. A machine which now makes its first bow to the public and asks for their patronage is the "Climax." The machine we saw was an elegant 56 inch. with bent handles, so as to give the rider more power over his work, all the bright parts was nickel plated, the remainder, japanned black with fold leaf embossing—Rudges ball bearings were fitted to both wheels, patent D. H. R., hollow steel rims of extraordinary strength, oval back bone, and hollow back fork all combined in one piece of best weldless steel $1\frac{1}{2}$ in oval shape, this we notice is a great improvement, as there is no possible danger of the weld coming asunder, steel spokes, butted at the ends to give greater strength and rigidity, which were screwed into a massive hub $5\frac{1}{2}$ inches diameter, new shape adjustable cranks, which were kept well into the hubs. We think Messrs. Lewis, will find a large demand for the Climax, it certainly was one of the finest looking machines in the show, and we think the price asked very reasonable.



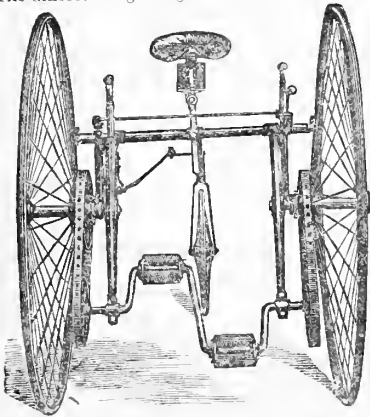
"The Speedwell."

The "Speedwell" tricycle was first made last season and gained a prize at the Plymouth Exhibition shortly after making its debut. The machine has two large wheels of equal size, is light in construction, yet strong, and can be ridden by either lady or gentleman. It is propelled by rotary action, has a good steering arrangement, and will turn in a radius of five feet. This machine we notice comes at a comparatively low figure considering the excellence of its make and finish.

(See Advertisement Page 36)

THE HOWE MACHINE CO., LIMITED.

This company exhibited the "Howe Bicycle," the "Howe Tricycle," and the "Howe Special Tricycle." The two former are so well known to the trade, that we need not describe them. The latter machine is a new and valuable invention. The "Howe" Machine Company, (Limited), have secured from Mr. Thomas Warwick the right to use his patent, No. 4317, in the construction of this machine, the new features of which are its adaptation for hill climbing, effected by a newly invented gearing, by which speed on a level road can be instantly changed for power in mounting hills by a simple movement of the handle. The same action works an arrangement for stopping the pedals when descending hills, so that the feet remain stationary while the machine is in motion. The differential gearing of the machine is also fitted with



a locking lever, which keeps the gearing in the desired position for either speed or power. There being a special apparatus for climbing hills the machine is so constructed as to enable it to run at a greater speed upon level ground than those of ordinary pattern. The brake which acts upon both driving wheels is most simple and effective. Its attachment is enclosed within the frame of the machine, and is acted on by one lever only, which lies under the four fingers of the left hand. Every care has been taken to secure lightness of construction, compatible with the necessary strength and durability. We think the invention thoroughly practical, and it will ensure to the Howe Machine Company some good orders.

(See Advertisement Page 37).

MR. G. W. ASH.

Several specimens of the "Leader" bicycle were exhibited by Mr. Ash. It is a capitally made machine, has a good patent spring, and other improvements.

The "Leader" tricycle is also made by this exhibitor. It is one of the best made machines we saw in the show.

(See Advertisement Page 39.)

PALMER & CO.

The "Interchangeable" bicycle shown by Messrs Palmer & Co. The foundation of the "Interchangeable" system is the adoption of a decimal scale of measurements, (to perfect which Sir Joseph Whitworth has done so much), by which absolute accuracy is ensured. Having fixed upon suitable dimensions, these are recorded by drawings and figures, then gauges are made corresponding with all distinct sizes, and from these gauges others are produced, for actual use in the processes of manufacture; those first made being held as standards by which to correct deviation—the inevitable result of wear. Such, in brief, is the system which has been so successfully applied in all Government Arsenals, and by the leading Mechanics of the day, and such is the system which enables Messrs. Palmer and Co. to produce the "Interchangeable" Bicycle—a combination of the best materials and first-class workmanship at a reasonable price. The advantage of this plan is obvious. By simply sending size or number of bicycle any part can be returned at once guaranteed to fit machine indicated.

(See Advertisement Page 18.)

MESSRS. BURNETT & CO.

Some of the cheapest machines—good quality and low figure—were exhibited by this firm. Their bicycles are known as the "Standard," Tourist," "Special," and "Yorkshire."

The "Standard" has corrugate hollow forks, ball bearings to front wheel, hollow forks to back and now spring arrangement.

(See Advertisement Page 39.)

MESSRS. WARMAN, LAXON AND YOUETT.

These well-known Coventry manufacturers exhibited close on a dozen different machines. Amongst their exhibits we noticed the "Triumph" tricycle, a most splendid machine, nickel-plated and fitted with Warman's patent chain, which we described in full in our last issue. The "Victoria," a patent automatic double driving tricycle, rear steering, ball bearings, and the "Victoria" tricycle, a similar machine only front steering. This company make the "Rival" roadster and racer, two excellent bicycles. The latter was one of the finest racers in the show. Messrs. Warman make several tricycles for juveniles single and sociable. We noticed on their stand the "Triumph Sociable" part plated, ball bearings, intermediate gear. It is a very fine machine.

(See Advertisement Page 39.)

(To be concluded in April).

G. MADER & MÜLLER, SCHMALKALDEN, GERMANY. MANUFACTURERS OF SCREW DRIVERS.

Price lists post free on application.

LEWIS & CO'S BICYCLES & TRICYCLES

Prize Medal, Plymouth Exhibition, 1882.

The Cheapest High Class Machines in the World

The "SPEEDWELL" BICYCLE.

The "H.F. BRITANNIA"

The "CLIMAX."

The "SPEEDWELL" TRICYCLE.

Fitted with all the latest and most costly improvements.

LIBERAL TERMS TO CASH BUYERS.

PATENTEES AND MANUFACTURERS,
W. G. LEWIS & CO.,
SPEEDWELL WORKS,
ROMFORD, E.

The "Coventry Triumph" Bicycles and Tricycles.

WARMAN, LAXON & YUETT

WEST ORCHARD, COVENTRY,

WHOLESALE AND EXPORT MANUFACTURERS.

India Rubber Tyred Bath Chair and Perambulator Wheels. Speciality Children's Bicycles and Tricycles. Manufactures for this Season cannot be surpassed. Price Lists on Application.

ELIAS HOWE SEWING MACHINES,

ADAPTED FOR EVERY DESCRIPTION OF WORK.

Families will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several plies of heavy Cloth.

Dressmakers who once use THE HOWE give it the preference over all others for beauty and durability of Stitch.

PURCHASE NO MACHINES

Complete with all Appliances from £4 4s.

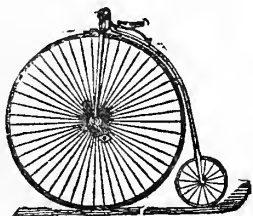


Manufacturers of Boots and Clothing, who carry on a high-class trade, ONLY USE THE HOWE MACHINE.

A trial is all that is necessary to convince those in want of a Sewing Machine that THE HOWE is entitled to pre-eminence over all others.

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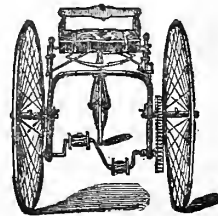
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Possesses all the latest improvements, and will be found unrivalled for quality of workmanship and material. See Special Lists.

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A Machine designed on the Best Mechanical Principles.



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Factory: Avenue Street, Bridgeton, Glasgow.

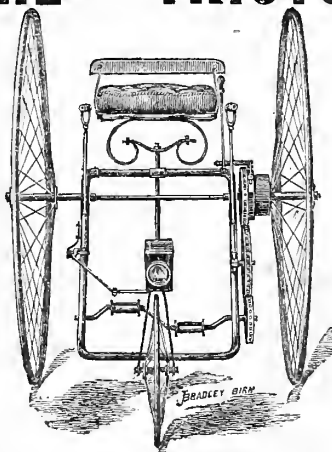
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44 or 46 inch.



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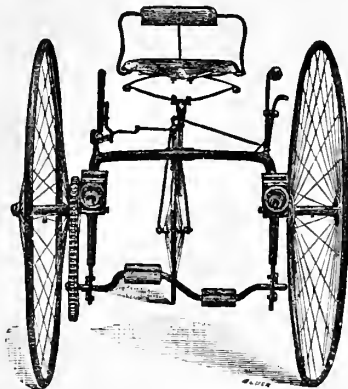
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This Machine is sent out COMPLETE, with Ball Bearings to both wheels, spanner, oil can, and patent alarm bell. Weight of a 50-inch, 40lbs.

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44-inch	£7 0 0	52-inch	£8 0 0
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50 "	7 15 0	58 "	9 5 0
Hollow Forks		10s. extra.	

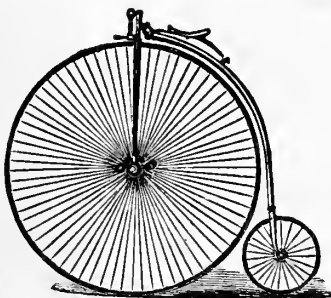
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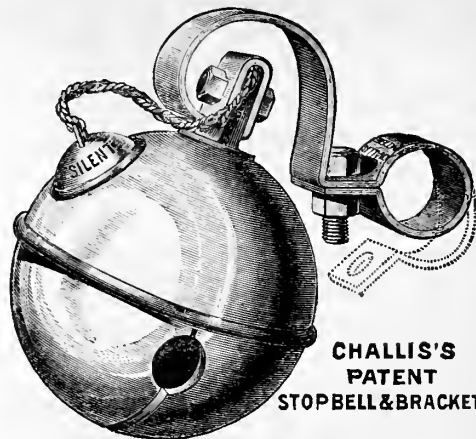


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These Machines being the only ones built absolutely on the **INTERCHANGEABLE** System, will especially recommend themselves to riders as being the safest machines for touring, as any parts broken from the almost inevitable spills can be replaced immediately on receipt of telegram, guaranteed to fit.

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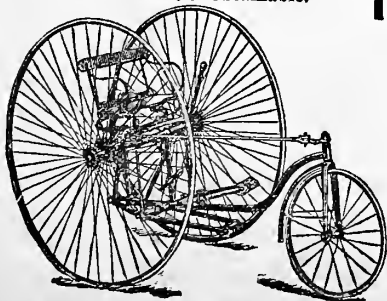
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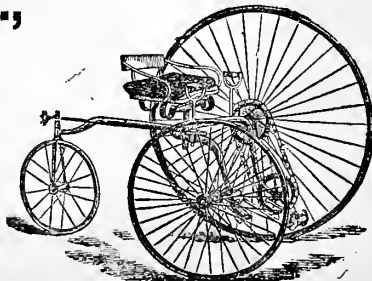
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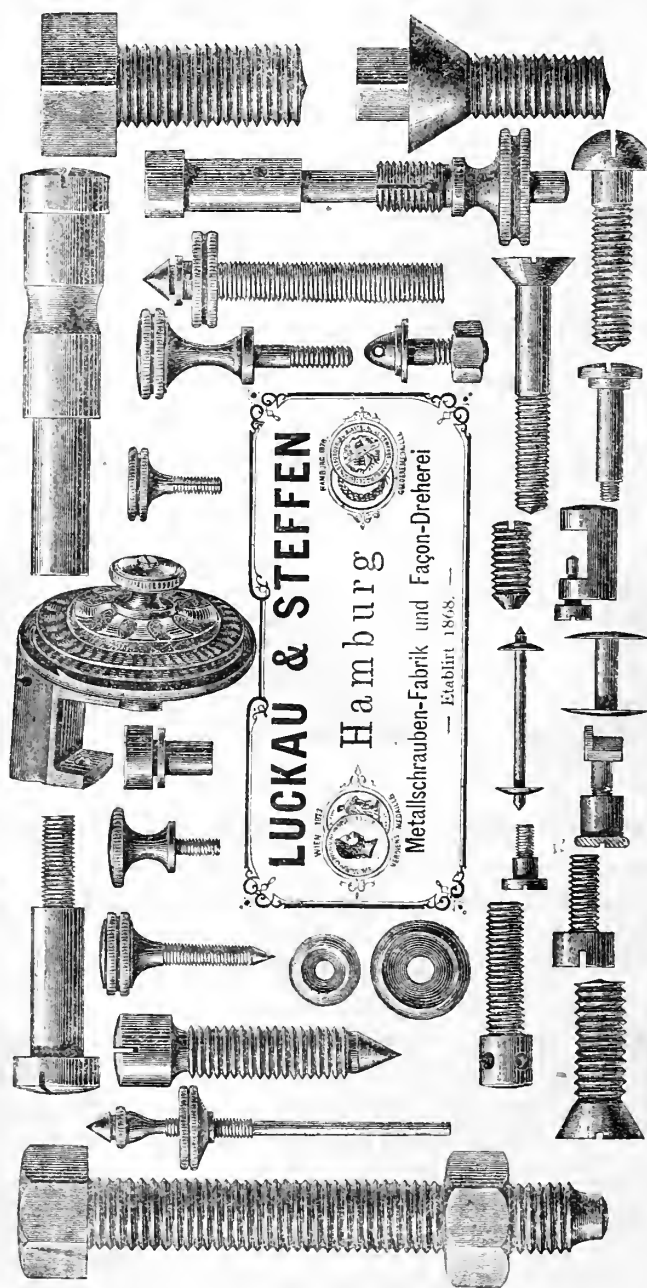
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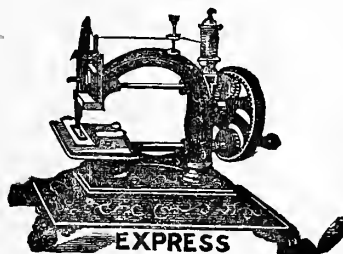
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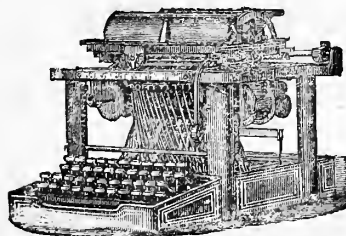
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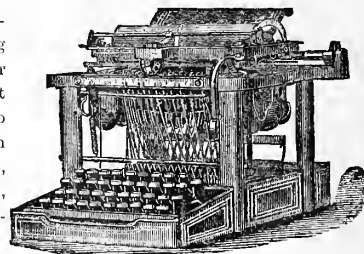
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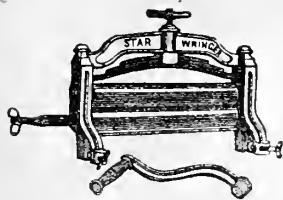
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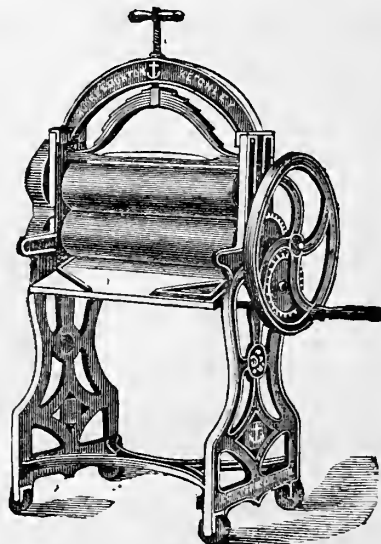
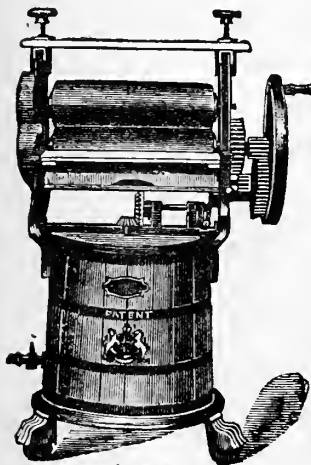
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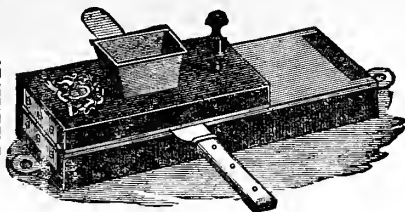


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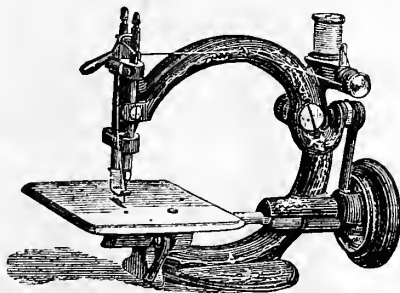
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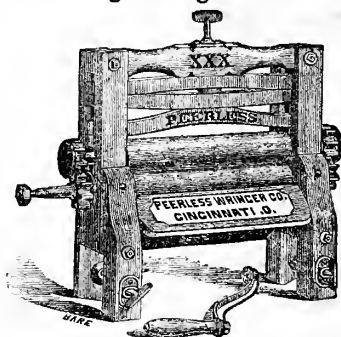
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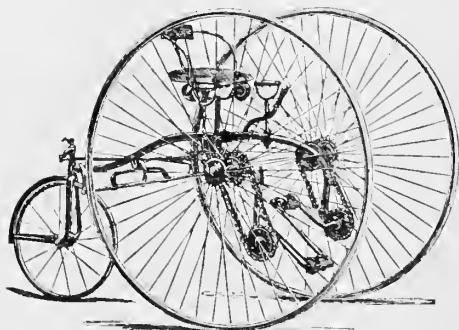
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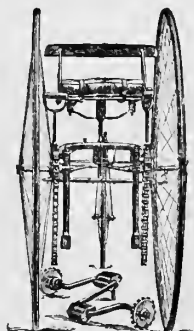
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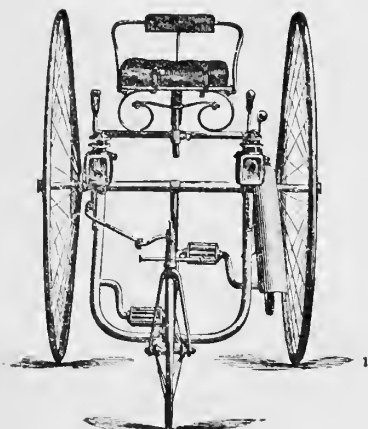
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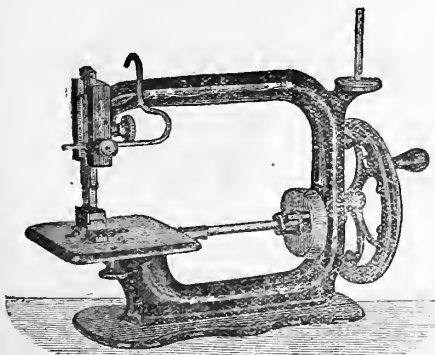


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 AND
Sewing Machine Gazette.

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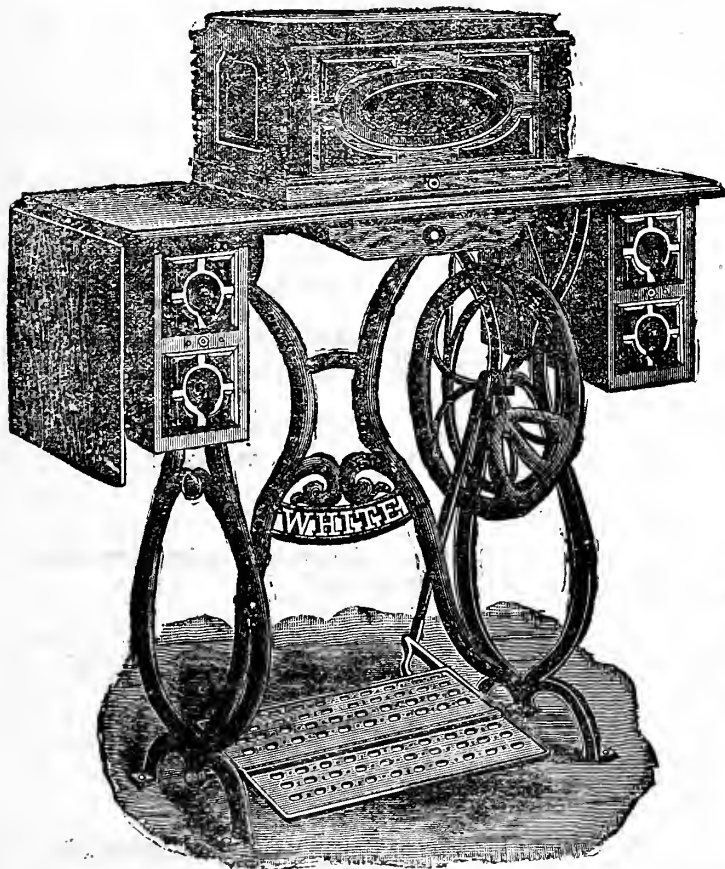
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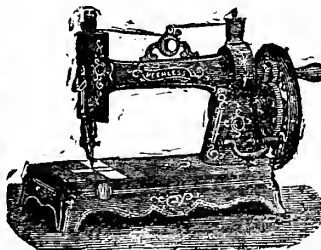
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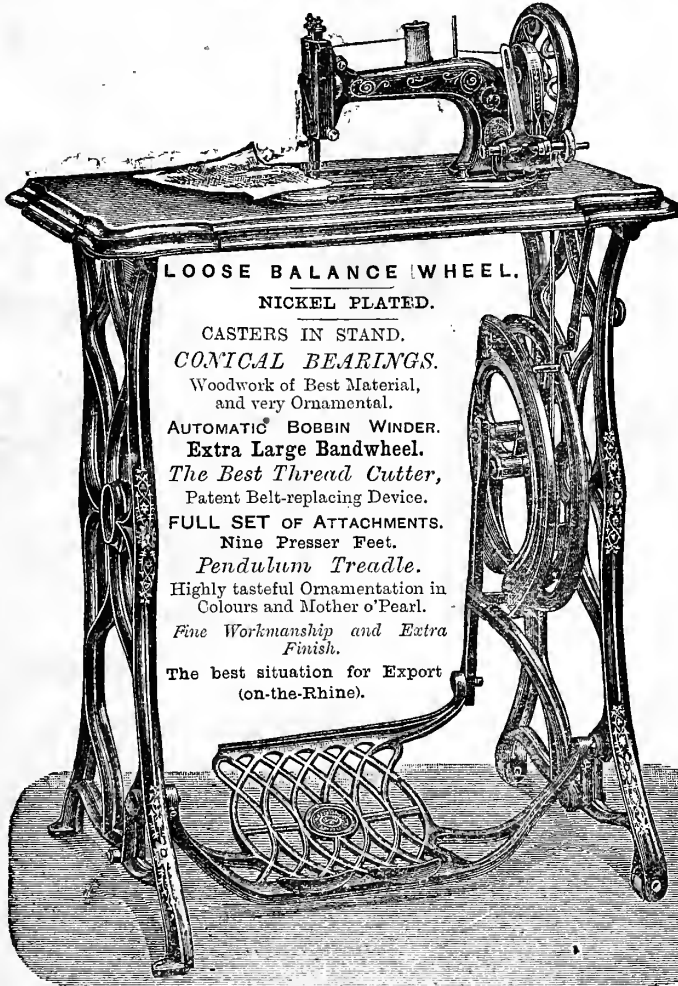
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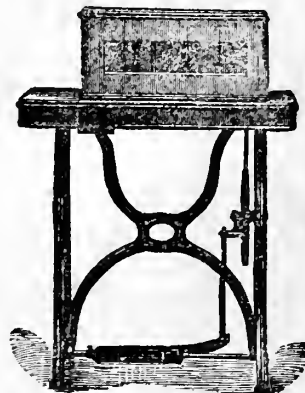
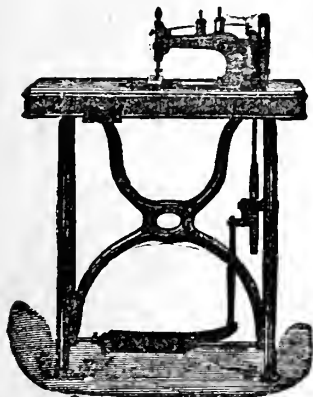
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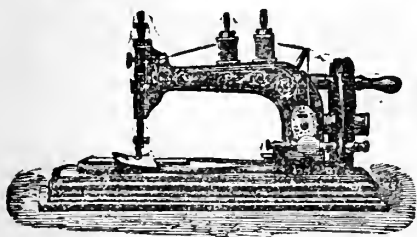
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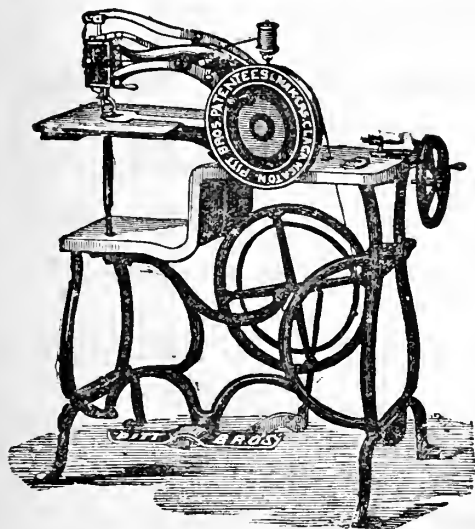
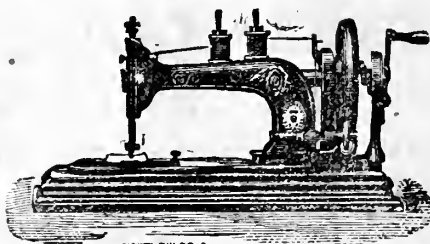
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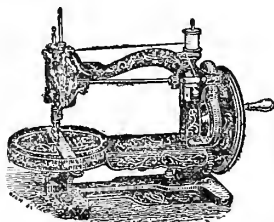


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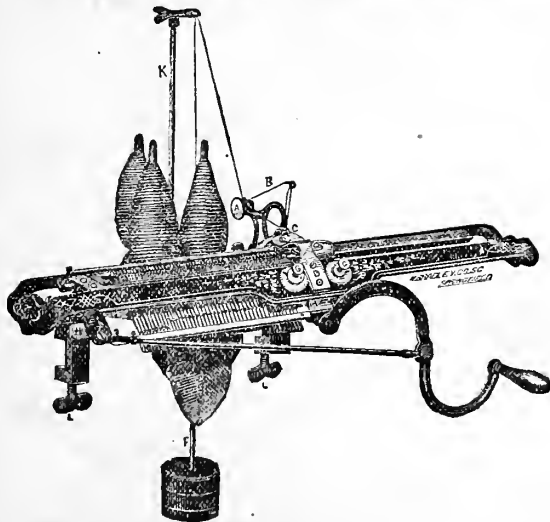
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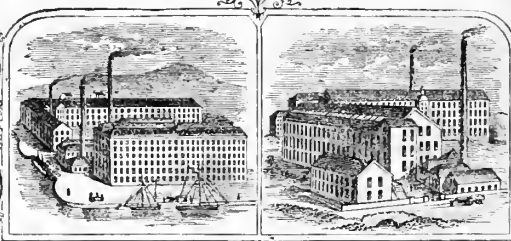
MACHINE COTTON.
SIX-CORD SOFT COTTON.
CROCHET COTTON.
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CARLILE & CO.

TRADE MARK

ESTABLISHED 1752.



MARKING COTTON.
PATENT GLACE COTTON.
TATTING COTTON.
EMBROIDERY COTTON.

SEWING COTTON MANUFACTURERS,
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CARLILE & CO.'S
SIX-CORD SOFT AND EXTRA QUALITY GLACE.

BEING OF VERY SUPERIOR QUALITY, ARE SPECIALLY ADAPTED

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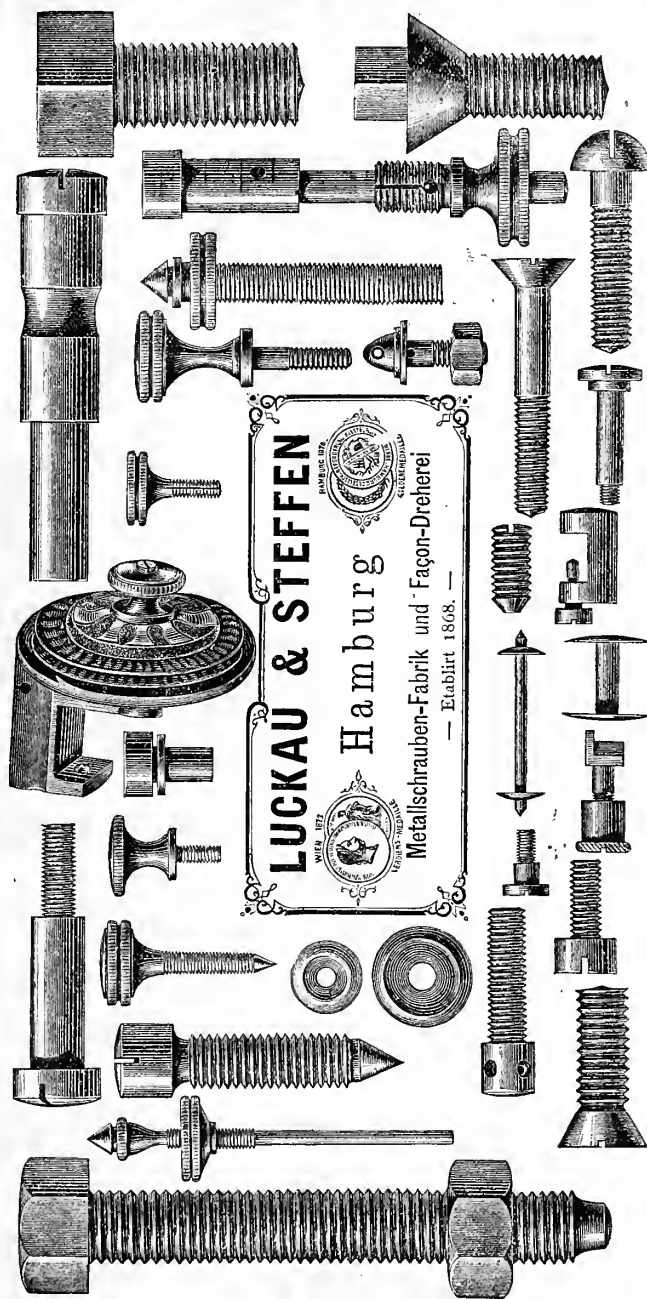


C. and Co. beg to direct attention to their
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LUCKAU AND STEFFEN, HAMBURG.



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PRIZE MEDALS, VIENNA, 1873; HAMBURG, 1876.

Manufacturers of Metal Screws, &c.
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BEISSER & FLIEGE, CHEMNITZ, SAXONY,

Make, as a Special Article,

OIL CANS, with sharp turns for Sewing Machines, of zinc, of white iron plate, of brass, and with nickel in 30 different sorts. Also Oil Cans with squirting valve; and Oil Cans for pouring, for mechanical workshops, in the most various shapes and sizes. Screw Drivers with winged stock.

On request, Price Lists in the German, French, and English languages are sent free and gratis. The Manufactory is the largest and acknowledged as the best in Germany.

THE LARGEST

THE LARGEST SEWING

THE LARGEST SEWING MACHINE

SEWING
Machine "Belt"
Manufacturers.

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Oil
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Warehouse.

Bishop's Cluster Company, Limited, 25, Hamsell St., London, E.C.

G. E. WRIGHT'S PATENT SEWING MACHINE.
LOOP-STITCH. LOCK-STITCH.



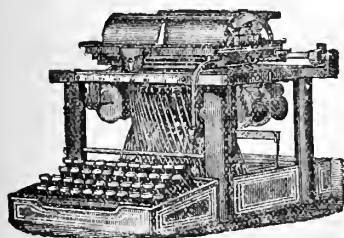
By the Half-dozen, 16 6 each.



By the Half-dozen, 27/- each.

G. E. WRIGHT, 1, NEW BROAD ST., LONDON, E.C.

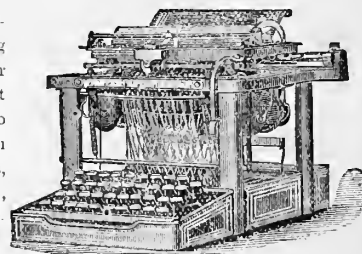
THE REMINGTON TYPE WRITER DEPOT:—
6, KING STREET, CHEAPSIDE,

**No. 4, PERFECTED TYPE-WRITER**

It is portable, durable, and finished in the style of No. 2; the working parts are exposed to view.

A Machine to supersede the pen for manuscript writing, correspondence, &c., having twice the speed of the pen, is always ready for use, simple in construction, not liable to get out of order, easily understood, and any one who can spell can write with it. It is used in Government offices, by Merchants, Bankers, Lawyers, Clergymen, Doctors, Scientists, &c., &c., &c. Its advantages are great and numerous, and no one ought to be without one.

REDUCED PRICES.
PROVINCIAL AGENTS WANTED.

**No. 2, PERFECTED TYPE-WRITER.**

This machine prints Upper and Lower Case (capital and small) type portable.

BEEMAN & ROBERTS, Sole Agents for the United Kingdom.

EPHRAIM BROTHERS,

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Manufacturers of

Sewing Machine Attachments, Fittings,
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LARGE STORE OF

Shuttles & Reels (about 100 species)	Hooks
Tuckmarkers	Brushes
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Circular Needles	
&c. &c. &c.	

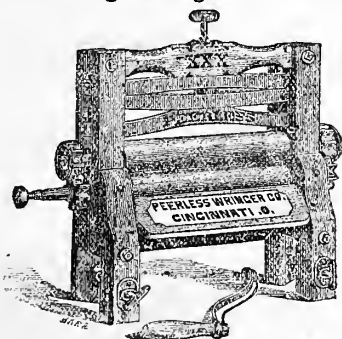
For the Systems of Wheeler & Wilson, Singer, Howe
Gro. & Bak., No. 9, 23 and 24, &c., &c.

CHEAPEST PRICES!

Illustrated Price Lists on application.

**THE "PEERLESS"
CLOTHES WRINGER**

Is the leading Wringer of America.



Shippers, Merchants, and the Trade
PLACED ON THE
MOST FAVORABLE TERMS.

AWARDED
THE FIRST PRIZE
Wherever it has competed.

The best, the cheapest, the most substantial and
simple wooden frame Clothes Wringer made.

Enquiries and Orders to be addressed to the Sole European
Representatives,

JOHN R. WHITLEY & CO.,
7, POULTRY, LONDON, E.C.;

AND

8, PLACE VENDOME, PARIS.

AGENTS WANTED.**OILS.**

IMPERIAL SEWING MACHINE,
In 1 to 6 oz. Bottles.

CRYSTAL SPERM SEWING MACHINE,
In 1 to 2 oz. Bottles.

BICYCLE LUBRICATING,
In bulk or bottle to order.

"SOLAR" BICYCLE LAMP OIL,
In 4 and 10 oz. Bottles.

MACHINERY OILS,

As consigned to us by the drum or barrel.

SEWING MACHINE TRADE SUPPLIES—

OIL CANS, SCREW-DRIVERS, NEEDLES,
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DOMESTIC MACHINERY—

In all its branches.

SOLE AGENTS for the HAMILTON MANUFACTURING Co. Manufacturers of the "WALKER WASHER" and DOMINION WRINGER.

IMPORTERS of AMERICAN KNITTING MACHINES, NOVELTIES, and HARDWARE

SOLE AGENTS for the BICKFORD KNITTING MACHINE Co.

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R. S. DAVILLE & CO.,

46, WOOD STREET, LIVERPOOL.

WHEATLEY BROTHERS

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CUTLERY.
**SKATES.
TOOLS.**

Sole Manufacturers of ORTH'S Improved

REGISTERED PEELER.

The handiest and cheapest in the market. Retails at 6d., and nickel
plated at 1s. each.

Sold by Cutlers and Ironmongers, Wholesale (ONLY)
direct from Makers, or from London and Birmingham
Merchants and Shippers.

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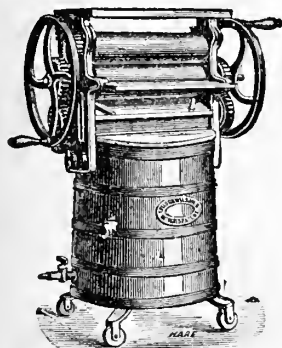
PRIZE
MEDAL



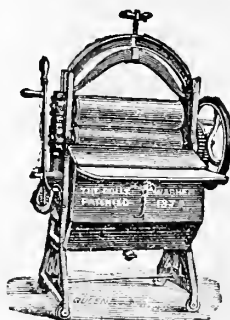
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1880.

TAYLOR AND WILSON'S

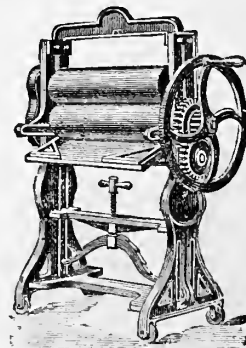
"HOME" WASHER	- . .	FIRST PRIZE
"DOLLY" WASHER	- . .	SECOND PRIZE
WRINGING MACHINE	- . .	FIRST PRIZE



Price, £6 : 6 : 0.



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Awarded upwards of 150 Gold and Silver Medals and First Prizes.

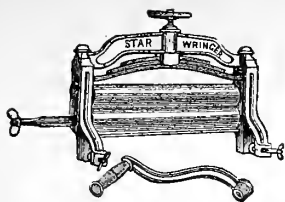
THE ANNUAL SALES EXCEED THOSE OF ANY OTHER WASHING MACHINE.

Our Goods are all guaranteed to be made from the best materials, thoroughly seasoned, and are all fitted with our well-known patents and appliances, which cannot be supplied by any other maker.

Illustrated Catalogue free on application to

TAYLOR & WILSON,

Atlas Works, Clayton-le-Moors, Accrington.



STAR WRINGER.

This Wringer is of an entirely new and neat design, has a novel attachment whereby the Wringer can be fixed most firmly in a few moments to Washing Machines, or any Wash Tub, either round or square.

Prices.—12-in. 18s. 6d.; 14-in. 20s. 6d.; 15-in. 22s. 6d.

Trade Terms on application.

BEVERIDGE & ROBERTSON,

Manufacturers of Mangles, Washing Machines, Wringers, &c.,

KIRKCALDY, N.B.

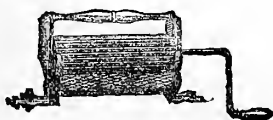


THE 'IMPERIAL' CLOTHES-WRINGER.

—LATEST NOVELTY.—With strong, galvanized iron frame, steel springs, and best quality india-rubber rollers.

The Imperial Clothes-Wringer fixes itself to the tub, the springs are self-adjusting, and all pressure is automatically relieved from the rollers when not in use, therefore careless servants cannot spoil the rollers by leaving the pressure on.

PRICES.—10-inch Rollers, 25/-; 12-inch Rollers, 30 -



THE "DIAMOND" WASHING MACHINE

—LATEST NOVELTY.—With galvanized iron frame and plugs.

The Diamond Washer is superior in washing power to all other Washing Machines of the kind. The lower roller is covered with diamond-faced india-rubber, which greatly increases the efficiency of the Machine and prevents buttons being broken.

There is no framework beneath the rollers, and therefore strings and small articles cannot catch and become entangled, as in some similar Machines.

Kenworthy's Patent Canadian Washer, 3s. 6d. each, wonderfully effective and easy to work.

SPECIALY LIBERAL DISCOUNTS, recently revised and reduced, to the TRADE.

Sole Importer and Wholesale Agent for United Kingdom.

HARPER TWELVETREES, Laundry Machinist, 80, Finsbury Pavement, London, E.C.
WORKS—BURDETT ROAD, BOW, E.

MOORE, MURTON & WALTON,

Manufacturers of the

ROYAL, ANCHOR & PEOPLES

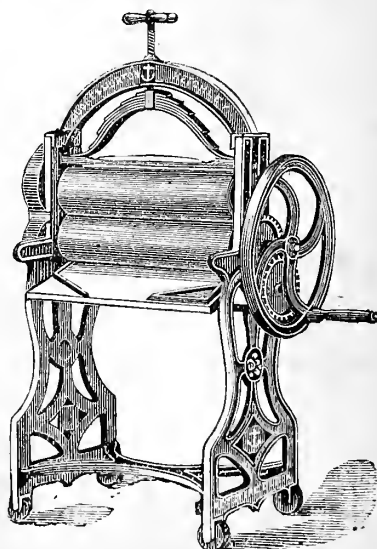
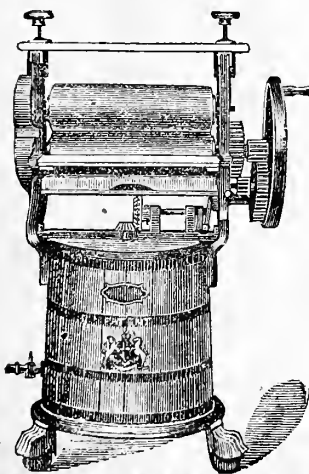
WASHERS,

And every description of

Wringing & Mangling Machines.

Price List and Illustrated Catalogue
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TRADE ONLY SUPPLIED.



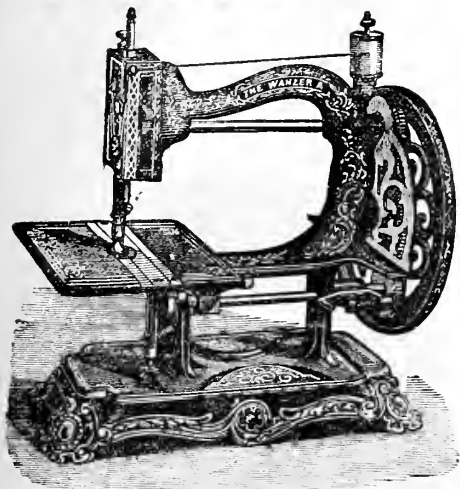
BRITANNIA IRON WORKS, KEIGHLEY

American Agents—**FOWLER & CO., Eagle Brass Works, Louisville, Ky**

THE "WANZER"

LOCK-STITCH, HAND OR FOOT, SEWING MACHINES.

First Prize Medals, Honours & Awards, wherever Exhibited.



WANZER "A"

IS THE

Great Mechanical Success of the Age.

It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

THE NEW "LITTLE WANZER."—Entirely reconstructed and improved. Nickel-plated, Loose Wheel, New Patent Shuttle, Take-up Lever and Spooler. £4 4s.

WANZER "A." Simplicity Itself.—The most powerful yet light running Hand Machine, straight race. £4 4s.

WANZER "C" Light Foot Family Machine, entirely New, with every improvement up to 1879. £6 0s.

WANZER "F" Family Machine, with Reversible Feed and Stitch Lever. £7 10s.

WANZER "E" Wheel Feed Machine, for heavy work of all kinds £8 8s.

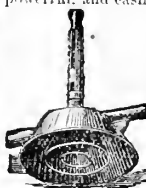
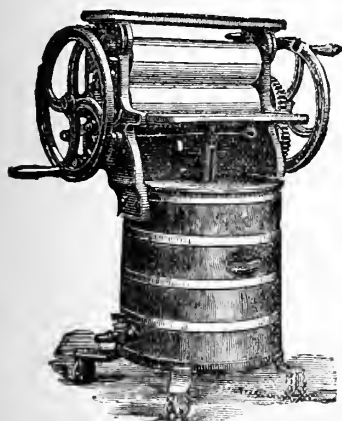
WANZER PLAITING, KILTING AND BASTING MACHINES,

Over 200 varieties of perfect Plaiting or Kilting, from 30s. complete. *The only Machine Kilting and Basting at one operation.*

The Wanzer Sewing Machine Company,
LIMITED,

**Chief Office—4, GREAT PORTLAND ST.,
OXFORD CIRCUS, LONDON. W.**

NEW HIGH-CLASS WASHING MACHINE.



SHOWING PLUNGER, which works up and down in tub about 60 times per minute, atmospherically forcing the hot water and soap through the clothes, thus not only loosening the dirt but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate articles.

The "PARAGON" Washer, Wringer and Mangle (KENWORTHY'S Patent) is a compact powerful, and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize Silver Medal, General Competition, and also an extra First Prize, Silver Medal for Improvements; Worsley Agricultural Show, the Society's Medal; Altrincham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society Medal; also gained Prizes and Honours at the Northumberland, Halifax, Tormorden, and Preston Agricultural Shows.

Mr. JORDAN EVANS, 92, Cawder Street, Prince's Road, Liverpool, says:—"I beg to inform you that the 'PARAGON' Washing, Wringing, and Mangling Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in less than two hours."

Patentees and Sole Manufacturers of the Celebrated and World-Renowned **PATENT "CANADIAN WASHER,"** which is the most Simple, most Effective, and the most Economical Washer ever offered to the Public. This is on the same principle as the "Paragon Washer" Plunger, but is made to use by hand in any ordinary maiden tub, washtub, or bowl. Over 30,000 have been sold in a short time.

AGENTS WANTED in Districts not yet Represented.

E. N. KENWORTHY & CO., WASHING MACHINISTS, **ALPHA WORKS, OLDHAM, LANCASHIRE.**

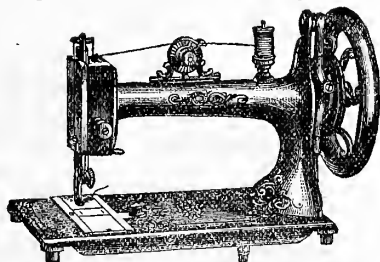
London Agent, Mr. **HARPER TWELVETREES,** Finsbury Pavement, E.C.

THE DAVIS VERTICAL FEED SEWING MACHINE

THE majority of our readers located in this "tight little island," know nothing about the above machine; the majority of those living in our colonies know more about it than any other machine. Therefore as our home readers are greatest in number, we think it only right to place before their notice a description of one of the most excellent machines it was ever our lot to examine. We may too, perhaps, be able to give some information respecting it that will not be stale even to our colonial subscribers.

The Davis Company is one of the largest manufacturing concerns in America, and having ramifications in most towns in the United States, have just opened offices at 54, Queen Victoria-street, London, and are now determined on pushing an English trade. That they will succeed there is not the slightest doubt, indeed, it seems to us that the machine only requires to be known and tried to ensure a large sale. Its mechanical arrangements are very different to those of other machines. We will first take its feed.

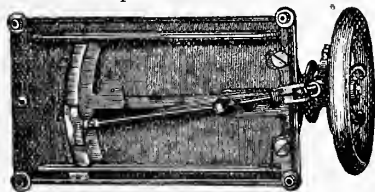
The Vertical Feed is above the bed of the machine. The goods rest upon a perfectly smooth surface, being held firmly by the



Head of the "Davis" Vertical Feed Sewing Machine.

presser-foot until the feed has "stepped" forward. At this time the needle penetrates the fabrics, the pressure is automatically transmitted to the feed (which comes down on the goods close behind the needle), and the presser bar is raised. When the needle has reached its lowest point, the full pressure has been transmitted to the feed, and it and the needle-bar are moved together the desired length of stitch both moving in unison at their highest and lowest points.

From the above description it will be seen that—



Showing the underpart of the "Davis" Sewing Machine.

1st. The presser-foot is always raised from the fabric when the feed takes place, and presents no resistance to seams or ridges.

2nd. The needle being in the fabric, moving with the Vertical Feed with its full pressure on the goods, renders the feed sure and strong, and the stitches uniform in length.

3rd. The needle being in the goods at the time the feed takes place renders it impossible to pull one piece while the other is stretched.

4th. The Vertical Feed being behind the needle, the machine is capable of sewing elastic goods, making a smooth and flexible seam with stitch alike on both sides; also of sewing any number of thicknesses without hasting, operating with equal facility on the heaviest as well as the lightest fabrics.

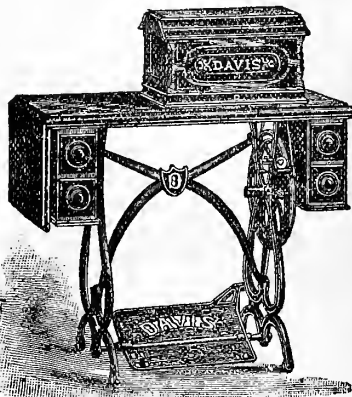
The "Davis" has no under works to be looked after or to get out of order; the working parts being confined in the head of the machine, requiring no other attention or adjusting than occasionally putting a drop of oil in the holes provided for that purpose; it is composed

of a less number of working parts than any other shuttle machine; its use is more easily and quickly learned; it is especially adapted to the diversified wants of family sewing, and is so simple that it can be used efficiently by anyone with facility.

Its working parts are made of the best material, are compact, strong and durable, each point of friction being casehardened, insuring the longest wear with the least expense for repairs.

It will do the greatest variety of stitching, from the lightest cambric through all grades of fabric to harness leather.

The vertical feed enables the operator to turn the work at any curve or angle while the machine is in motion, without changing the tension or length of stitch; consequently it can easily do in a given time one-third more work than any under-feed machine. The shuttle holds a large amount of thread and gives an even tension in the most simple manner.



The "Davis" Sewing Machine, style 8.

The "Davis" gained the highest award at the Melbourne and Sydney Exhibitions. The following are the jurors reports:—

COPY OF JUDGES REPORT ON SEWING MACHINES AT THE EXHIBITION IN SYDNEY, AUSTRALIA, 1879-'80 IN CLASS 550, SEWING MACHINES.

We have carefully and minutely examined the whole multifarious exhibits in sewing machines, in most cases devoting an entire sitting to the exhibition and testing of each type of exhibits, commencing with the American Court, and taking them as they stand in order in the gallery.

The "Davis" Machine.—The producers of this machine have departed from the general practice of manufacturers inasmuch as—

1st. Placing the feed above the work instead of underneath it, in such a manner as to obviate the objections which caused the abandonment of that system as originally produced.

2nd. The increased range of work which the above arrangement permits. This we find to be considerably in excess of that of the other system.

3rd. The extreme simplicity of its construction, the number of its working parts being greatly reduced in comparison with any other machine doing the same quality of work, with a consequent decrease of wear and tear.

4th. The workmanship is of the highest class.

In conclusion we have the honor to summarize our recommendations as follows:

1. Merit.—The New Davis Sewing Machine being a complete departure from the ordinary style of sewing machines, possessing all the advantages of such ordinary machines, and in addition an increase range of work, with the greatest simplicity of construction and reduction of number of working parts. We consider it to be entitled to the first place in Awards.—Geo. H. Royce, C. E.

Editor Australian Engineer, Chairman.

REPORT OF JULY 37, MELBOURNE INTERNATIONAL EXHIBITION 1880-81.

Sewing Machines.—The competition in sewing machines proved very keen, and great interest was evinced both by the representa-

tives of the makers and the public in the result of the trial.

The machines were removed from the stand, and were submitted privately to the jury, and their various qualifications explained by skilled operators.

The jury then retained possession of them for some time, and at their leisure examined the workmanship and material, testing the latter for hardness by use of a file.

Domestic Machines.—Among domestic machines the highest place was awarded to a machine comparatively new in the Melbourne market, though by no means untried elsewhere, and known as the Davis Vertical Feed Sewing Machine.

The feed apparatus is entirely removed from the usual position beneath the table of the machine, and is attached to the head.

It consists mainly of a vertical bar placed close to the presser foot and which receives suitable vertical and horizontal motion from mechanism contained in the head of the machine.

We find the other points entirely novel.

1st. The presser foot, instead of being continuously urged downward upon the work, is lifted lightly at the instant that the forward motion takes place.



THE "DAVIS" SEWING MACHINE, STYLE 9.

2nd. The feeding is accomplished while the needle is in its lowest position, and the needle partakes of the forward motion of the feed bar, pinning the two plies together and causing both to advance equally.

The machine is also provided with a very complete series of adjustments for counteracting the effect of wear, and an improved automatic bobbin winder, and in all its details is carefully and judiciously worked out.

Owing apparently to its peculiar feed-motion the Davis machine possesses an astonishing power of passing over seams and other irregularities, and accomplishes with the greatest ease a remarkable wide range of work.

It is also provided with a very ingenious and novel set of attachments adapted to work in unison with the new feed-motion, and enabling very complicated operations to be performed with facility, and in many cases dispensing altogether with the necessity of guiding the work by hand.

It was at first supposed by the jury that this excellent performance was in some measure due to the special skill of the operator. This view was, however, entirely negated by the fact that a change of operators in no way impaired the result.

The Davis machine is made for either foot or hand power, and performed equally well in each case.

To it the jury awards the first order of merit, as being prominent for simplicity, convenience, efficiency and rapidity, both as a treadle and hand machine.—W. C. Kernot, Chairman, Jury 37.

And here we may be permitted to explain why a special jury of experts came to be appointed at Melbourne—it arose in this way. In the first instance a jury of gentlemen were appointed by the Commission to report on sewing machines; this jury after a most

careful and exhaustive examination extending over some six weeks, unanimously gave the first position to the New Davis, in both hand and treadle machines—the defeated competitors hurled such a mass of objections at the heads of the Commission that in sheer self-defence the report was sent back to the jury, another two or three weeks was given to submitting the Davis to the most rigorous catechism with the crushing result, that "the jury declined to alter their first report."

Now comes the cream of the joke, (a joke by the way for which the allies had to pay their piper pretty smartly) and a modern illustration of the old saw that "fools rush where angels fear to tread," the doubly defeated shifted their ground and impugned the jury in toto as utterly incompetent, &c., &c., and applied that a jury of experts should be appointed, and so it came about that for the third time the sewing machines at the Melbourne exhibition were put through their facings, the third trial occupying some two or three weeks, and what the chosen jury of experts thought of the sewing machine exhibits and what they said of them is recorded in their own words:

Melbourne International Exhibition, 11th April, 1881.

J. Cosmo Newberry, Esq.,

Superintendent of Juries and Awards.

Sir,—According to your instructions we have made a practical and thorough examination of the following sewing machines, viz: The Bradbury, Wertheim, Grimme Natalis, Wheeler and Wilson, Jones and Co., Johnson, Clark and Co., and the New Davis, and the results of our test and experiments are set forth in the tabulated statements attached.

We find that the Bradbury, Wertheim, Grimme Natalis, and Jones are all of the Singer type and should be classed in the same order.

The Wheeler and Wilson differ in construction, but the results of our experiments are similar to the others.

The standard of Messrs. Johnson, Clark and Co., is the only machine submitted, except the Davis, having a radial shuttle movement, and therefore worthy of the consideration of the judges.

As regards the New Davis we cannot but agree with the judges that it is very superior to any of the others and went through every test to our entire satisfaction. We therefore beg to recommend that machines be placed in the following order:

Family Machines.—1st. The Davis (awarded First and Special and the Gold Medal.) 2nd. The Standard. 3rd. Grimme Natalis, Jones and Co., Bradbury, Wheeler and Wilson, Wertheim, Cramer Hand Machines.—1st. The Davis, (awarded First and Special.) 2nd. The Standard, Wertheim. 3rd. Bradbury, Jones, Cramer, Wheeler and Wilson. Signed, Bobart, Quarry, Experts.

If any additional testimony of the excellent qualities of the "Davis" machine were needed, we should have great pleasure in adding that after careful examination and testing we find this machine is splendidly made, is constructed of the best materials, is excellently finished, and will stitch all classes of work heavy or light so beautifully as to be almost astonishing.

A BILL has been introduced by Earl Stanhope into the House of Lords, which recites that, "By reason of the present labour in shops and warehouses for the sale of textile fabrics and articles of wearing apparel, many women and young persons are grievously injured in health;" and proposes to enact that on and after January 1, 1883, "it shall not be lawful for any shop or warehouse for the sale of textile fabrics and articles of wearing apparel, where women and young persons are employed, to be open for more than ten hours in each day." Another clause provides that, "to meet the exigencies of the season trade, permission may be granted by the Secretary of State for the Home Department for an extension of time to any establishment making an application therefore, but such extension shall not exceed 60 days in each year, nor be for more than two hours in each of said days, and the employers receiving permission for such extension must forward an intimation to the Home Office each night the extension is taken advantage of."

A BRIEF SKETCH OF HUDSON'S BAY COMPANY.

Hudson's Bay Company is a joint stock association, formed for the purpose of importing into Great Britain the furs and skins which it obtains from the British North American Indians. In 1670 Charles II. granted a charter to Prince Rupert and seventeen other noblemen and gentlemen, incorporating them as the "Governor and Company of Adventurers of England trading into Hudson's Bay." This charter secured to them "the sole trade and commerce of those seas, straits, bays, rivers, lakes, creeks and sounds, in whatsoever a latitude they shall be, that lie within the straits commonly called Hudson's Straits, together with all the lands and territories upon the countries, coasts and confines of the seas, &c., aforesaid, that are not already actually possessed by or granted to our subjects, or possessed by the subjects of any other Christian prince or state." The company also received the complete lordship, and entire legislative, judicial, and executive power within the limits described, as well as the right to "the whole and entire trade and traffic to and from all havens, bays, creeks, rivers, lakes and seas into which they should find entrance or passage by water or land of the territories, limits or the place aforesaid." In 1821 Hudson's Bay Company and the North West Fur Company of Montreal amalgamated, obtaining a license to hold for twenty-one years the monopoly of trade in the vast regions lying to the west and north west of the first-named company's grant. In 1838 Hudson's Bay Company acquired the sole rights for itself, and obtained a new license for twenty-one years. When this expired it was not renewed, and since 1859 the district has been open to all. The licenses to trade did not affect the original possessions of the company, which it retained till 1869, when they were transferred to the British Government for £800,000, and in 1870 they were incorporated with the Dominion of Canada. The company now trades entirely as a private corporation, and still retains one-twentieth of the entire grant, together with valuable tracts of land around the various forts. These trading forts are dotted over the immense region, except Canada proper and Alaska, which is bounded east by the Atlantic, and west by the Pacific Ocean, and north by the Arctic Ocean, and South by the United States. From these forts the furs are transported by boat or canoe to York Fort, on Hudson's Bay, and thence are shipped to England to be sold at auction.

SUCCESSFUL COMMERCIAL TRAVELLERS.

Travelling men, says the *Newark Courier*, can hardly be termed "professors," and their business will hardly bear the name of a "profession," and yet we do really think that they are more justly entitled to this honorary degree than many of those to whom the appellation is usually accorded. It must be confessed that agents are not generally learned men, that is, they are not learned in the sense in which that term is commonly understood. It is a rare thing to find one who has been much at school. They have an education peculiarly their own, and one not obtainable from college tutors, or in college halls. They have come up chiefly from the ranks, and they have earned their promotion, as they have their living, as they went along. They have learning enough in their way, but they gained it chiefly by sore trials, and long contact with men. They are sharp fellows, these agents, the sharpest kind of fellows, and yet they are by no means "sharpers" in the common acceptance of the term. The travelling man, above all others, has learned to set a proper value upon integrity, and a due estimate upon fair dealing. He is not long in ascertaining the important fact that tricks do not often succeed, and that the trickster, as soon as he is known, is sure to be despised of all men. The travelling man is usually a gentleman. Indeed, he must wear at least the semblance of a gentleman if he wishes to succeed.

To make a successful travelling man, requires the highest order of business ability. It requires that which is higher and better than ability, and that is tact. He must understand his particular line of business thoroughly and be familiar with the talk that belongs to it. A novice has but a poor chance to succeed in this

business, and if besides he is slow of speech, he is certain to fail. It requires coolness, close and careful calculation, on the part of the travelling man. But more than anything else, it requires confidence and self-reliance. Timidity is the worst of all faults for one who undertakes to follow this business. If he presents himself in the manner of one out of place, the customer will be sure to treat him as such, and soon get rid of him as an intruder.

We know of no business, finally, that requires such a combination of strong features to insure success as this which we have now under consideration. Many men can sell goods behind the counter and yet they fail upon the road. Many can do admirably among relatives and friends, and yet meet with very poor success when they come in contact with strangers. The well-trained travelling man makes his friends as he does his acquaintances, every day as it goes along. He has the rare faculty of impressing others with his own thoughts and his own feelings. He reminds men of needs they would not think of, and often induces them to buy what they themselves never would have called for. He makes himself generally interesting, if not generally useful, and many men give him their orders for no other reason, perhaps, than that he is a pleasant fellow to deal with.

THE LONDON INSTITUTE FOR THE ADVANCEMENT OF PLAIN NEEDLEWORK.—This establishment, situated at 2, Connaught-street, Edgware-road, has lately completed its third year of existence. As the proper teaching of this very important subject is now much considered by all classes of persons engaged in education, and among them the managers of national, parochial, and elementary schools, a short summary of the work done since its first opening in the Westminster-bridge-road in October, 1878, may interest our readers. Four country associations have been formed; thirty lectures in various provincial towns and in London, and thirty model lessons in some of the metropolitan and other training colleges have been given. Classes in two country centres have been held; three societies have their work periodically examined; six private, high, and endowed schools have accepted its teachers. Five night centres for teachers' classes have been held in London. The Leicester School Board Schools are examined quarterly by one of its certificated teachers. Forty-eight persons have taken certificates, and five now hold full diplomas. Many ladies classes have been held in London, and in several cases the lessons received at the institute are being worked out now in distant country districts. These classes have also proved of great service to ladies who have charge of mothers' meetings, young women's classes, or who are connected with the Girls' Friendly Society. The chief point aimed at is the teaching how to instruct large classes in needlework simultaneously by demonstration. One result is that a teacher can have seventy children well in hand, and actively engaged, with one-seventh part of the labour and fatigue that she would have incurred under the old system. Those teachers who have given this method a fair trial declare that the needlework hour is the pleasantest in the whole day; and certainly the sight of 340 children happily at work on this system after seven months' training, which we had the pleasure of seeing lately, was one not easily to be forgotten. The institute is managed by a committee composed of the following ladies and gentlemen: Mrs. Henry Alderson, the Countess of Airlie, the Rev. W. Campbell (Her Majesty's Inspector), Miss Chamberlain, Mrs. Cromwell, Mrs. Thomas Erskine, the Lady FitzHardinge, Mrs. Ascoche Floyer, the Rev. T. Fussell (Her Majesty's Inspector), Miss Fussell, Mr. Thomas Garfit, Miss E. Godley, Lady Hamilton Gordon, Mrs. Henry Grenfell, Mr. Charles Hoare, Miss Mundella, Miss Robinson, the Lady Arthur Russell, Lady Sandford, the Rev. T. Sharpe (Her Majesty's Inspector), Mr. R. N. Shore, the Rev. H. Shrine, the Hon. Mrs. Lulph Stanley, and Mrs. Whitcombe, many of whom will be glad to give information respecting classes, or to receive contributions, which in the present early stage of the undertaking are much required. *Warehouseman and Draper.*

WASHING MACHINERY.

While so much progress has been made in domestic machinery for economising labour in most departments of the house, that of the laundry has been by no means neglected. Indeed, next to the sewing machine, the washing machine is the most labour saving of domestic appliances. Our grandmothers were slaves of the wash-tub, and were as many days doing the amount of washing that could now be done in hours, and until the introduction of washing machinery, they were dependant entirely on their muscular arms



THE PARAGON SHOW ROOMS, BURDETT ROAD.

and strong wrists to impart the necessary rubbing to the clothes. Within the past few years however, as many as fifty manufacturers have commenced to make washing machines and bring them before the notice of the public, one in particular, Mr. Harper Twelvetrees is so well known, that his machines will be found in a very great number of homes in English colonies and in most parts of the civilized world. Whether the Indian squaws patronise his manufactures we cannot say; as a rule they are not encumbered with much clothing to require the service of one. Mr. Harper Twelvetrees, whose show rooms are at Bow, and at 80,



THE VILLA WASHING MACHINE.

Finsbury-pavement, places before the trade a great number of different machines, some suited for a small household, others for a large laundry. We shall briefly describe the majority of his manufactures.

To begin, everyone has heard of the "Villa" washing machine, which will do a week's washing in a few hours, and will clean either thick blankets or delicate fabrics. It is a machine that occupies little space, and is admirably adapted for small suburban kitchens. It is very strong and durable, not liable to get out of order.

The "Villa" washer, wringer and mangler combined is a machine that renders boiling unnecessary, and thus saves a considerable amount of fuel. The machine has all the excellent qualities of the washer previously described and is suitable for a larger family. In

its most recent form as shown in cut, the three operations are performed by the movement of one wheel which by an ingenious contrivance is made to "gear" for each.

A cheap sensible machine is the "Prize" washer. As will be seen by illustration it fits in a tub, and is sold with or without the



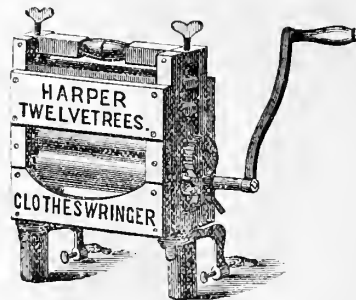
VILLA WASHER, WRINGER AND MANGLER COMBINED.

latter at a very moderate figure. The machine will fit round or square tubs any width, and do all the "Family Wash" without



THE PRIZE WASHER.

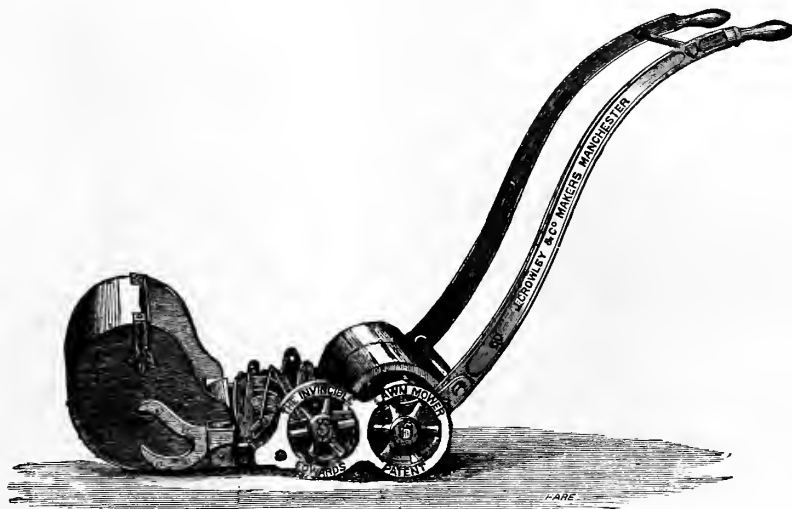
any hand rubbing in one-third the usual time. It is light and portable; does not get out of order; is easy to work; and will adjust itself to articles of any size without alteration. It is always ready



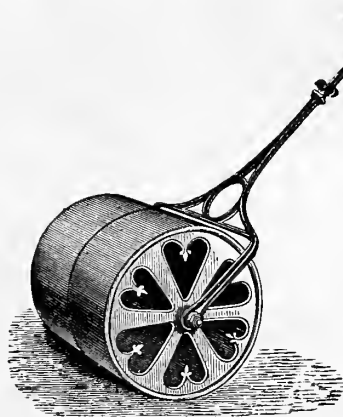
INDIA RUBBER WRINGER.

for use; saves two-thirds of labour; and washes the largest blanket or counterpane in three minutes; or three shirts, five pairs of lace curtains, or four pocket handkerchiefs at once. A dozen small articles placed inside a table-cloth or towel, can all be washed together by passing them backwards and forwards a few times between the corrugated rollers, which act upon the clothes as the knuckles do in hand washing.

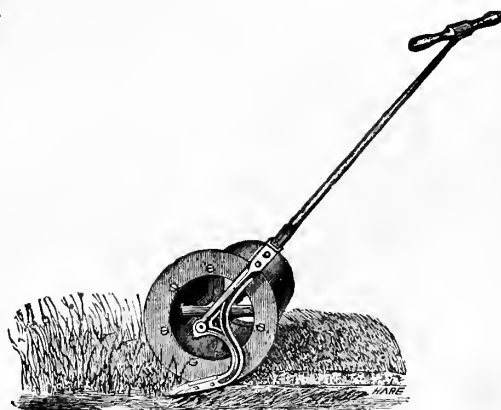
SUPPLEMENT TO THE
JOURNAL OF DOMESTIC APPLIANCES AND SEWING MACHINE GAZETTE,
APRIL 1st, 1882.



THE "INVINCIBLE" LAWN MOWER.



GARDEN ROLLER.



LAWN EDGE CLIPPER.

GARDEN APPLIANCES

MANUFACTURED BY

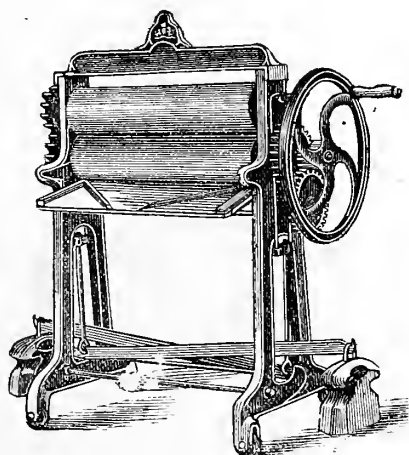
Messrs. JOHN CROWLEY & Co., SHEFFIELD.



Mr. Harper Twelvetreves also manufactures portable India-rubber clothes wringers. This machine, of which we give an illustration, was first exhibited at the International Exhibition of 1862, where it attracted so much attention in the American Court. It will wring sheets, shirts, blankets, counterpanes, shawls, lace curtains, collars, or anything that requires wringing. No threads are broken or buttons destroyed; and worn and tender parts are not made worse each washing day. It is the cheapest and best wringing machine ever invented, and has been in general use by laundresses and families during the last eighteen years.

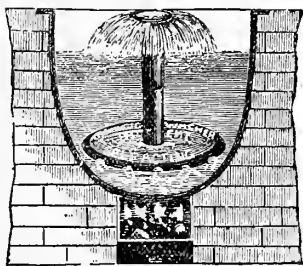
The "Villa" mangle and wringer combined is another excellent machine. These mangles are very durable, and simple; and will not readily get out of order. They are mounted on wheels or castors, and are provided with a shifting board on each side to form a table when mangling. The pressure is gained at the top by means of a screw and elliptic spring; and the machines will do any mangling that can be done with the ponderous box mangle, with a tenth part of the labour.

Another valuable machine is an improved wringer mangling machine with lever weight and pressure.



IMPROVED WRINGING AND MANGLING MACHINE.

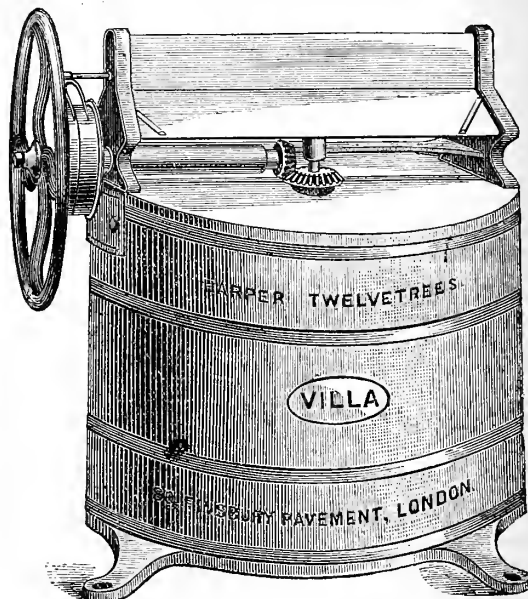
We noticed three self-acting washers amongst the manufactures of this firm. The "Workman," an appliance costing only 5s. 6d., is made entirely of strong sheet zinc and cannot rust. It is a very effective washer and fits any copper or boiler, and the funnel can be readily adapted to any required height. The "Artizan" is a similar machine, and causes a current of boiling suds to pass through and through the clothes. The "Lady" is another good self-acting washer and is constructed entirely of copper.



THE LADY.

For large laundries where steam is employed Mr. Twelvetreves manufactures the "Villa" washing machine, specially adapted for steam power. The machine of which we give an illustration is

used in the Queen's laundry. It possess tremendous washing capabilities and requires but little steam power. We may also



THE "VILLA" CONSTRUCTED FOR STEAM POWER,

add that Mr. Harper Twelvetreves has made arrangements with Messrs. Roby and Co., for supplying their engines, and that he fixes them in laundries and connects them with washing machinery.

MARRIAGE OF MR. G. KENT.—On Friday, the 24th ult., a complimentary dinner was given by Mr. George Kent, of 199, 200 and 201, High Holborn, the well-known domestic machinery manufacturer, to his employes and their wives, in the Prince's Salon, at the Holborn Restaurant, in honour of the nuptials of his son. Mr. W. G. Kent. Mr. Kent presided. The toast of the occasion, "The Health of the Bride and Bridegroom," was heartily responded to, with "three times three," given from those to whom the bridegroom has become endeared by his urbanity and manly bearing. The toast, "The Health of Mr. Geo. Kent, Mrs. Kent, and Family," was received with most hearty cheers and fervent expressions of good wishes. Mr. Mildred (architect to Mr. Kent) then recited some lines which he had written for the occasion, and which were received by the company with great enthusiasm. "The Health of the Manager, Mr. Sutton," was received with the respect due to him for his ever-genial leadership, and responded to with musical honours, and that of "The Foreman, Mr. Cooper, was also drunk with heartiness. The toasts were interspersed with pianoforte solos by Mr. Burton, and many excellent songs and recitations, noticeable among the latter being "The Fireman's Wedding," by Mr. Webbon, and a simple ballad, "The Kiss," composed by Mr. Mildred. Altogether a most enjoyable evening was spent in an agreeable manner and without the least restraint, thus cementing the excellent feeling existing between employer and employes. Mr. C. Escott was an efficient toastmaster. The wedding presents were numerous and costly. The employes presented a splendid epergne. Mr. and Mrs. Mildred presented a green tazza of French cut glass with burnished golden edges.

A NEW BOOT CLEANING MACHINE.

One of the most modern domestic inventions is the boot blacking machine. We cannot say any of these machines have been brought to that state of perfection so that it is only necessary to place in them the boots and blacking and turn the handle once for them to be cleaned, but they are certainly a great improvement on the old way of cleaning by hand. The Universal Boot Cleaner, is in our opinion the machine most suitable for family use, and also for schools. We of course are far from supposing that "Boots" of an hotel would find in it anything but a valuable labour saving appliance, but we think by reason of its cheapness, simplicity, and the small space it occupies it is specially adapted for family use. We have tried the machine, and there was certainly a shine in this office; our editorial boots in future will know no other brushes. The

till he gets 'em?" The "Artful Dodger" would have appreciated one of these machines too, when to use his own language, he was 'japanning his trotter cases.'

We may add that the universal retalic at one guinea, and we strongly recommend domestic machinery agents to secure an agency for the same.

SHOPS AND SHOPPING IN MEXICO.

Shops and shopping of the upper sort in Mexico follow French or European traditions more than American. Fanciful titles over the doorway are adopted instead of a firm name. A dry good store is "The Surprise," "The Spring Time," "The Explosion" a jeweller's, the "Pearl" or "Emerald;" a shoe store, "The Azure



machine is turned by the right hand, while the boot to be cleaned is held against the undermost brush with the left hand. There are two circular brushes, the hard one for cleaning the dirt off, and the soft one for polishing. Whichever is required has to be placed a bottom, the machine being reversible at pleasure. A little experience will soon make one acquainted with the easy and rapid manner the brushes will do their work. Although practically as simple as hand brushes, yet being new and different to what you have been accustomed to, a little patience will be needed at first, but after a few times working them their great superiority to hand brushes will be acknowledged. Every rotation gives nearly four feet of brush surface to the boot. Properly used, they will therefore clean four or five times as fast as hand brushes, and with far greater efficiency. Owing to their greater size they are far more durable than hand brushes, and are therefore quite as economical in cost. The putting on of blacking, requiring comparatively little labour, can be done with hand brush.

The manufacturers of this machine are the Patent Universal Boot Blacking Agency, 357, Goswell-road. When writing of it, one cannot help thinking of our old friend, Sam Weller, at the White Hart Hotel. The wooden leg in number six, the pair of Hessians in thirteen, the two pair of halves in the commercial the painted tops in the snuggery inside the bar, the Wellingtons a good deal worn, and the ladies' shoes in number five would have been very quickly blackened and shined, and Sam would have had no need to have made such reply when hurried by the servant girl, as, "Ask number twenty-two whether he'll have 'em now or wait

Boot," and "The Foot of Venus." The windows are tastefully draped, and a large force of clerks is seen shoulder to shoulder within. These clerks are more democratic in their manner than Americans would venture to be. They shake hands with their patrons if they have enjoyed a slight previous acquaintance, and inquire after the health of Miss Lolita and Miss Soledad. There are those of superior social position among them, however, some who are met with at the balls of the Guatemala Minister, for instance. The explanation may, perhaps, be found in the limited choice of occupations open, which leaves to many who desire to work no more important places. Until of late it has not been etiquette for ladies of standing to shop except from their carriages—a considerable part of the shopping, as for furniture and other household goods, is still conducted by the men of the family—just as if it was not etiquette for ladies to be seen walking in the streets. The change in both these respects is ascribed to the horse-cars. The point of ceremony, it appears, was founded somewhat upon the difficulty of getting about. The American touch appears in the streets with increasing frequency, in signs of dealers in arms, sewing machines, and other of our useful inventions, and of the insurance companies, a novel idea to which the Mexicans seem to take with much readiness. The principal shopping hours are from four to six o'clock in the afternoon. From one till three, or even four, little is done. There is a general stoppage of affairs for dinner. It is but a short time since that interesting person, the commercial traveller, has been known in this country. The profits of favourably-situated houses, in the absence of keen competition, have been

very large, and methods of doing business in some instances correspondingly loose. The Mexican Merchant does not necessarily go into a fine calculation of the proportionate value of each detail of a foreign invoice, but "lumps" the profit he thinks he ought to receive on the whole. Some articles, in consequence, can be bought at less than their real value, while others in compensation, are, exorbitantly advanced. It is the smaller trade, however, and that most removed from metropolitan influences, that is the gayest and most entertaining as a spectacle. How many picturesque market scenes does one linger in! Each population has its own market day, not to interfere with any other. The stone flags of the plaza, or the market houses, which are plentiful and well-built, are hidden under a complication of fruits, grains, cocoa sacks and mats, striped blankets, and *rebozos*, sprawling brown limbs, embroidered bodices and kirtles, as if with an excessively thick, richly-coloured rug. A grade above this is the *Parian*, as at Puebla, a bazaar of small shops, in which goods, salespeople, and customers are all to be put upon the canvas with the most vivid hues. The leading *merceria* (dry goods shop) of the same important city of Puebla, called "The City of Mexico," a bit of which I hastily transfer to my sketch-book, has a facade entirely in glazed tiles upon an unglazed ground of red, with allegorical figures larger than life between the pilasters, as part of the pattern. "*Commercial, Social, and Political Mexico*," in *Harper's Monthly Magazine*.

A DESIDERATUM.

(With apologies to the Author of "Patience.")

An independent young man
 A right-kind of stuff young man
 A deep, comprehensible,
 Plain-spoken, sensible,
 Thoroughly self-made young man.
 A not-to-be-beaten young man;
 An up-to-the-front young man;
 A genuine, plucky,
 Happy-go-lucky,
 Try-it-again young man.
 A knowledge-seeking young man;
 A real wide-awake young man;
 A work in the season,
 Find-out-the-reason,
 Not-too-smart-to-learn young man.
 An affable, courteous young man
 A practice-not-preach young man
 Kind, sympathetic,
 Not-all-theoretic,
 One-in-a-thousand young man.
 A now-a-days scarce young man
 A hard-to-be-found young man
 A perfectly self-possessed,
 Not-always-over-dressed,
 Kind-that-I like young man

Price 6d. per Dozen.

HIRE AGREEMENT FORMS,

Drafted by Counsel,

Especially for the "*Journal of Domestic Appliances*."

AGREEMENT FORMS, for the letting out on Hire of Sewing Machines, Washing Machines Bicycles, Pianos, Gas Stoves, and other Domestic Appliances, can be obtained at 6d. per doz., post free from the office of the *Journal of Domestic Appliances*, 20, Wormwood Street, London.

THE CYCLOSTYLE.

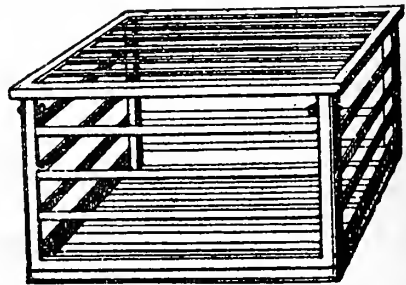
The Cyclostyle is the latest apparatus for obtaining a number of copies in indelible black ink from one original. It is not a "graph," and there is, therefore, no troublesome washing off. It is not worked by any complication of electricity or clockwork. The process is simply as follows:—A sheet of prepared paper (of which a quire is supplied with each apparatus) is fastened in a frame, and the original of which copies are wanted is written on this paper with the Cyclostyle Pen. The Cyclostyle Pen is a very



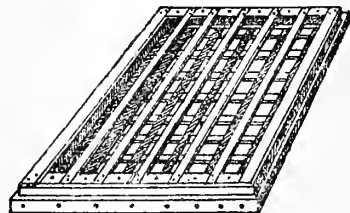
small and finely-made cogwheel, which, as it revolves, cuts a stencil. The writing with it gives minute points so close together that unless carefully examined, it is difficult to see that it is not a continuous cut. Paper being laid underneath the stencil (preferentially unglazed paper), an ink roller is passed over and a copy obtained. Messrs. Fairholme and Co., 9, Great Winchester-street, London, E.C., are the manufacturers of this article.

IMPROVED FOLDING PACKING CASES AND CRATES FOR SEWING MACHINES.

These cases or crates which are known as "Billing's Patent," are specially constructed, so that when empty and not required for use they will fold up into a very small space. They are made in



any size, and of any strength, and have patent hinges which forms strong and secure joints to the bottom and sides of the crate. Our illustrations will give a better idea than we can convey in words of



this invention. Samples can be seen at the offices of Messrs. J. Walsh & Co., 33, New Broad-street, E.C., of whom samples, and all particulars can be obtained. We strongly recommend the Sewing Machine Trade to make a trial of these crates.

SEWING MACHINE MEMS.

—:—

WE have heard of the sewing machine being put to some queer uses, but what did the lady who sent one as a present to Jumbo suppose that he could do with it? People have curious ways of drowning their sorrows—Traddles of David Copperfield when thrashed by old Creakle found consolation in drawing a slate full of skeletons—but we can hardly imagine an elephant finding solace for his exilement in working a sewing machine, although the claimant Tichborne, in Portland Prison, thus beguiled his time. This Jumbo rage has exceeded the bounds of common sense, and childish regret at the loss of a four-footed friend has given place to ridiculous sensation. If any lady has a machine she feels she really must give away, she will find that with little seeking there are many poor of her own sex to whom such a gift would be a life-long boon.

Rumour hath it, that the lady who anonymously sent Jumbo the sewing machine was not a lady at all, but a firm of manufacturers of such articles whose object was to obtain a gratuitous advertisement. If that is so, they certainly failed in obtaining their desire, for in no single instance has a newspaper given the name of the manufacturer of Jumbo's present; it has been merely mentioned as "a sewing machine." Rumour, however, is many-tongued, and we are fain to believe that any one in this trade is possessed of so little sense as to be guilty of so foolish an action.

We have heard of some wonderful sales effected by sewing machine agents, but the following which we cut from an American paper is about as big a stretch of the truth as is capable of coming from a Yankee editor's pen. The journal in question says, "a sewing machine agent, on entering the grounds of a private residence, was met by the pet watch dog of the landlady and compelled to skip out at a lively rate! Nothing daunted, the agent started down town and borrowed a Colt's navy pistol from a friend, returned, put five bullets in the pet dog, and then went in and sold the landlady a sixty dollar machine." This is *un pen trop fort*.

As will be seen by another column, the sewing machine trade of New Zealand is now anything but brisk, and that what little trade there is, is chiefly done by American agents. In fact, for the present the supply has much exceeded the demand, and the brisk trade of New Zealand like Australia is a thing of the past. There is, however, as good fish in the sea as ever came out of it, and sewing machine manufacturers have only to turn their attention to the Cape, to find a good stroke of business doing in their particular branch of commerce.

The chief event of the month is the opening of the London Depot of the DAVIS VERTICAL FEED SEWING MACHINE MANUFACTURING Co., 54, Queen Victoria-street, E.C. The offices, though small, are very convenient, and no expense has been spared in the fitting them up in modern taste.

In another column we give a description of the new comer which has won golden laurels, in the shape of gold medals at the Australian International Exhibitions and at the American Institute Fairs.

The general manager Mr. Newton, to whom is entrusted the introducing of THE DAVIS to the European market, is one of the most clever manipulators we have met.

We understand that THE DAVIS Vertical Sewing Machine Manufacturing Company will have a stall at the coming Furniture Trade Exhibition in May next, at the Agricultural Hall. The exhibit will be a centre of attraction to visitors generally and to the sewing machine trade in particular.

In referring to the imports of sewing machines to this country, one is surprised to note what a quantity came in from Germany. We are often asked the address of the London agents of the various German manufactures, the following are the principle:—The Sewing Machine Manufacturing Company, late Frister & Rossmann, Berlin, agent, Hermann Loog, Lim., 128, London-wall, E.C.; Bach and Claes, Brunswick, (makers of "The Elsa" hand machine), Guhl and Harbeck, Hamburg, (makers of the Express hand chain stitch), agent, H. C. Lee, 52, Cheapside; Nothmann Bros., Berlin, agent, R. Mothersill, 7, Trump-street, E.C.; Siedel and Naumann, Dresden, agent, A. Childs, 10, Finsbury-square-buildings, E.C.; Dür Kopp and Co., and Baer and Rempel of Bielfeld, agent, C. Lohman, 43, London-wall, E.C.

Mr. R. Mothersill, agent for The Taylor Patent Sewing Machines, Lippmann and Lind's Machine Co., Nothmann Bros. Manufacturing Company, Edison's Electric Pen, and for the Erection of Telephone on independent wires or purchase, late of Laurence-lane, E.C., has removed to 7, Trump-street, Cheapside, E.C.

The Wagner wire sewing machine, manufactured in Chicago, is a machine made specially for broom makers. It uses wire instead of thread, and sews about thirty dozen brooms per day. The machine has been on the market just about a year, and is rapidly coming into use. It is now being introduced in Europe.

THE PATENT GRIP CORKSCREW.

We have before us a very handy domestic appliance, the "Patent Grip Corkscrew." An invention that will pull out a cork cleanly, with little exertion, and without breaking the neck of the bottle is not to be despised. "The Patent Grip Corkscrew" will do all this



without much trouble, and very quickly. It also ensures the worm going into the centre of the cork. As will be seen by our illustration, it is simple in construction, consisting of a top and slide. For economy in power and rapidity of action, the "Grip" we should think is unequalled. It is made in nickel plated, or copper bronzed. The manufacturers are Messrs. G. F. Hipkins & Son, of Birmingham.

A NEW GAS BURNER.—Mr. J. F. Clarke, Moorgate-street, has introduced what he terms the "A. C. Illuminator," an invention which gas consumers will do well to make themselves acquainted with. The pressure is greatly reduced before the gas is consumed, and a clear, steady, bright light is obtained at the smallest possible expenditure. Experts have given highly favourable opinions of the new burner from scientific tests, some of the results of which are obvious enough to any beholder.

THE SEWING MACHINE TRADE OF NEW ZEALAND.

The following letter addressed to the editor of the American Sewing Machine News will give a correct account of the sewing machine business in New Zealand.—In this letter on the New Zealand sewing machine trade I will begin with Auckland There the principal business is done by Mr. Dennis, who appears to be doing a fair trade with the White machine, having relinquished the agencies he held for other machines. There are also at this place agencies for the "Singer," the "Howe" and the "Whertheim." The Singers are doing the largest trade, but things are generally dull and I think, like the rest of New Zealand, it will require some little time before there will be any perceptible improvement in trade.

Wellington, although the seat of government, and the Empire City, is the dullest place in New Zealand. The principal machines here are the "Singer," Whertheim, "Davis," "White" and Wheeler and Wilson." The offices are only doing a moderate trade; in fact, one establishment would do easily all the trade that is to be done here in sewing machines.

Christchurch is the city of the finest province in New Zealand for agriculture, and whilst speaking of this province, perhaps, it will not be out of place to give you some idea of the demand for another of your great manufacturers besides the sewing machine. I refer to harvesters and binders. The other day, whilst waiting at the railway station, I observed a large luggage train coming up, consisting of about thirty truck loads of wheels only, and on inquiry from the station master, I found they belonged to a ship load of American reapers and binders, and that this was the second ship load that had arrived within a short time. I merely mentioned this to show you the importance of this colony to your great country. I may say this train was drawn by one of the many "Yankee engines," as we term them, that are now running on all our great trunk railways.

In Christchurch we have represented the Singer, "Wheeler and Wilson," Whertheim, Davis, "White," "Wilson and Bradbury." The Singer Co. have done a fair steady business here for years, being long established. The Wheeler and Wilson Co. are not doing the trade they ought to do here. I think the great reason is the want of a more modern head agent in Australasia, or rather an agent who has more experience in sewing machine matters. There are great complaints from sub-agents here about the treatment they have received from the head agent in Melbourne, and this brings me to a subject I have been reading in the columns of your valuable paper. I refer to the sewing machine attachments. They complain that they would first receive a shipment of the No. 8 machines with the "Keystone" hemmers, the next without any; the next, probably, with Goodrich initial hemmers (a good hemmer but not durable in my opinion); then back to the Keystone, or worse, to some trumpery cheap article that is neither workable or suitable; and then again machines without hemmers. Now and again they receive half a dozen posters to generously assist in advertising the machines. Such general management, together with the prejudice of those who have had the old style of machine, is more trouble to a sewing machine man than twins in a family.

The "Davis" did a roaring trade on the strength of the Sydney and Melbourne prizes.—CHUCK SPRING.

ABSTRACT OF SPECIFICATIONS.

(So far as they refer to Domestic Appliances.)

—:—:—

SEWING MACHINES.

5166. Sewing Machines: H. J. Haddan, London. (D. Porter and T. H. White, Cleveland, U.S.A.) 4d. 2 Figs.—Consists in a mechanical movement which converts the rotary motion of the main horizontal driving shaft into a vibration motion for operating the shuttle bar, and by the interposition of other mechanism at the same time communicates rotary motion to the feed shaft. November 26, 1881.

3298. Apparatus or Mechanism to be applied to a Sewing Machine to adapt the same for stitching or Sewing Button-Holes: D. Mills, Philadelphia, U.S.A. 6d. 3 Figs.—This is an attachment specially applicable to machines having a vertically reciprocating needle and a reciprocating shuttle. The button-hole, stitched and finished and strengthened at each end by a bar formed of a series of comparatively long stitches extending crosswise to the direction of the length of the button-hole. July 23, 1881.

BICYCLES AND TRICYCLES.

3587. Bicycles &c.: A. W. Robinson, Birmingham. 6d. 9 Figs.—A spring returns the driving wheel to the normal position after it has been turned in steering. A seat is substituted for the usual saddle. August 17, 1881.

3272. Bicycles: J. H. Johnson, London. (W. Remyson, Norris Town, Penn., U.S.A.) 6d. 7 Figs.—When the rider is pitched off the vehicle forwards his knees lift off the steering bar, which is loose, and he is thus prevented from executing a somersault. July 26, 1881.

3408. Bicycles, &c.: G. Strickland, Valetta, Malta. 6d. 3 Figs.—The backbone is made in two parts telescoped together. By adjusting their relative positions the rake can be set to different angles. August 6, 1881.

3623. Bicycles and Tricycles: C. Toope, Stepney. 2d.—A coiled spring is interposed between the fork and the socket of the backbone, the lower ends of the fork terminate in boxes containing springs, the object being to reduce vibration. August 19, 1881.

3180. Tricycles: J. G. Smith, Eccles, Lancashire. 6d. 4 Figs.—Is arranged so that it can be operated by the hands, the steering being accomplished by the feet or knees of the rider. July 21, 1881.

3317. Tricycles. W. Jean, Christchurch. 6d. 3 Figs.—Relates to gearing placed between the crankshaft and axle so that the leverage may be varied. July 30, 1881.

3212. Velocipedes: G. Singer, Coventry, 6d. 11 Figs.—Has reference to means for contracting tricycles to enable them to pass through narrow doorways, to an improved form of brake, and to the method of attaching the wheels of bicycles and tricycles. July 22, 1881.

3371. Velocipedes: F. Wirth, Frankfurt. (P. Praechter, Heidelberg, Germany.) 8d. 17 Figs.—The pedals are fixed on circular segmental racks, which engage with toothed wheels on the axle. August 3, 1881.

3343. Velocipedes: J. M. Tyrer, Crosby, Lanc. 2d.—In order that a large driving wheel may be used the rider acts upon sliding pedals connected by rods to the cranks below them. August 2, 1881.

PERAMBULATORS.

3808. Perambulators: J. T. Shaw and H. D. Meredith, Manchester. 2d.—Consists in furnishing double perambulators with a hood which can be reversed so as to cover either back or front seat at pleasure. Also relates to making perambulators so that they can be used as either double or single ones. August 19, 1881.

2722. Wax-thread sewing machines. W. R. Lake, a communication from G. W. Copeland, of Boston, Massachusetts, United States. 10d.—This invention is applied to a machine for sewing the out-sole of a boot or shoe to the upper and in-sole by a line of stitches passing from the exterior of the out-sole, or from a channel therein, through the upper and in-sole making a chain stitch. The invention comprises a revolving horn, upon which the work is supported during the sewing, stitch-forming devices or mechanism, a needle-feed (so termed), a presser-foot connecting mechanism whereby the presser-foot and needle-bar govern the position of the cast-off, and improved mechanism for operating the whirl. The invention also comprises various details in construction, and an improvement in the method or manner of sewing; it also comprises movements whereby the length of stroke of the needle-bar is determined by the position of the presser-foot, and movements whereby the cast-off bar is adjusted automatically by the needle-bar and presser-foot. June 21, 1881.

THE
LIGHT-RUNNING
STANDARD
Has No Equal.



NONE SO SIMPLE,
NONE SO DURABLE,
NONE SO RELIABLE.

Examine it Before Purchasing any other.

RENNICK, KEMSLEY & CO.,
4 FINSBURY CIRCUS, LONDON,
ALSO,
Melbourne and Sydney.

STAY MACHINES.—A Manufacturer of Sewn Stays wants Addresses of Manufacturers of Sewing and Embroidering Machines or other tools concerning this Branch. Apply by letter to "2 T. T." care of Nygh and Van Dittmar's, General Advertising Offices, Kalverstraat, 62, Amsterdam.

WHO can supply Sewing Machines especially adapted for the Brodering of Travelling and Plush Covers. Address to F. 72,579, care of Messrs. Haasenstein and Vogler, Stuttgart.

A Berlin Sewing Machine Establishment, especially efficient in the manufacture of Singer A and Singer Hand Sewing Machines, wants to meet with buyers, everywhere, who require large quantities. Apply to W.O., 617, care of Messrs. Haasenstein and Vogler, Berlin, S.N.

WANTED by practical man, 14 years experience in Sewing Machine trade, a Situation as Manager or repairer at home or abroad. Good references. Apply J. H. Greenwood, Tunstall.

WANTED.—Several Good Workmen to REPAIR SEWING MACHINES. Only competent hands need apply. G.E.O. WHIGHT & Co., 143, Holborn Bars, London, E.C.

OLD Established Sewing Machine Business to Let in Bristol. Lease. Every convenience. Mr. Dowling, 1, Nelson-street, Bristol.

FOR SALE.—5 Kimbell & Morton Family Heads, never used, been laid by, 15s. each; Tops for Do. 8s. each. Also a Ward Platform Machine, nearly new, 20s. National Sewing Machine Co., 37, Fetter Lane, E.C.

THOMAS WARWICK,

Manufacturer of Bicycle Materials of every description.

Sole Maker of WOOLLEY'S PATENT SPRING SADDLES

PRICES.

- | | |
|--------------------------------------|----------|
| No. 1, with Flexible Sides . . . | 6/- each |
| 2, with Plain Saddle . . . | 3/6 " |
| 3, with Flexible Sides for Tricycles | 7/6 " |
| 4, do. do. with Roll at Back | 10/6 " |

These Saddles, for 1882, have several very important improvements, and are acknowledged to be **the most comfortable seat** for Bicycle or Tricycle, that are in the market. They afford great ease to the rider when riding over rough and bad roads, and on long journeys. The Seat is soft, and the edges being flexible, they give to the weight of the rider, and do not chafe the same as hard edges of ordinary saddles.

All kinds of Stampings, Rims, Spokes, Backbones Hollow Forks, Hubs, Bearings, Pedals, Springs, Lubricators, Oil Cans, Saddles and Bags, Bells, Lamps, and all parts finished, and in the rough.

Price Lists and Testimonials free from the Works,

ALMA STREET, ASTON NEW TOWN,
BIRMINGHAM.

JOURNAL OF DOMESTIC APPLIANCES

AND

Sewing Machine Gazette.

EVERYONE, we suppose, must have noticed the great number of small yet useful inventions which come to this country from America. In London and many larger towns there are shops where are sold nothing else but American novelties, and in smaller towns every ironmonger or domestic appliance agent will have amongst his stock a number of ingenious and handy little articles which have been invented and made in the land of the stars and stripes. How is it they all come from America, and why do we see so few small inventions owing their origin to English brain? Many people would tell us that the English mechanic is inferior to his American cousin, and that he thinks little of his business except that of giving the least and worst quality work for the most money. They would have us believe that he cares for nothing beyond his beer and tobacco, that in his work he trusts in old fashioned groves and that he is altogether deficient in originality. That there are a good many workmen of this stamp we cannot deny. But they are not all alike. There are as many inventors amongst our working classes as there are amongst the Americans, and we have only the stupidity of our Patent Laws to thank that their ideas never take any tangible and practical form. How can they? How is it possible for a mechanic earning say, three pounds a week who generally supports a wife and family, to

save one hundred and fifty pounds, the sum necessary to secure a patent. If it were ten or twenty pounds he could manage to save it, but such a sum as that required, is altogether beyond his means. His American cousin for about seven pounds can secure the necessary patent. Hence the reason we see so many minor inventions that hail from across "The Pond." We have known many poor English mechanics who, unable to raise the sum necessary for patenting their inventions, have sold their ideas to Americans for very small sums. The articles have been duly patented in America, and later on have appeared in this country as "American Novelties." The sooner the Patent Laws undergo a reformation the better it will be for the industries represented by this journal.

It is by no means pleasant for a railway passenger to arrive at the end of his journey minus his luggage. It may entail great inconvenience and loss of time, which often means money. If the traveller is a "commercial" it is a very serious misfortune and he may lose several days trade ere his wandering samples come safely back to him. It is an occurrence that very often happens and we think that all, whether "commercials" or not, should know the law on this matter. If the traveller takes his belongings with him as "passenger's luggage," seeing that it is duly received by the Company's servants and labelled correctly, the Railway Company is bound to deliver the "passenger's luggage" with the passenger, and even if excess be paid for overweight of luggage the matter remains just the same. If, however, the traveller sends his goods separately as "merchandise," then the company must have reasonable time to deliver. A case resting on this point of law was only recently decided by Mr. Commissioner Kerr in favor of a Railway Company, owing entirely to the thickheadedness of the plaintiff ("the commercial") in answering the questions put to him by the judge Mr. Kerr, though a very keen judge, is not remarkable for patience, and failing altogether to make the "commercial" see the difference between "passenger's luggage" and "merchandise," he made the traveller bear the effects of his stupidity—the loss of his case and costs.

Manufacturers of tricycles ought to feel indebted to Dr. Richardson for his article in the March issue of "Good Words." The essay in question "Tricycling in relation to Health," points out that it is one of the healthiest of recreations, and strongly urges all corpulent gentlemen of middle age to go in for that exercise, of course, using discretion at the onset as to the amount they indulge in. It will make the most rigid muscles and joints free and pliant, and for reducing corpulency it will be found to be far more effective than a thousand doses of antifat, without injuring the health as the latter does.

We are sorry to record the failure of Mr. W. J. Ryan, who for some time has carried on the business of washing machine agent at Imperial Arcade and Ludgate-circus. His debts are estimated at £900, assets at £130. Amongst the creditors connected with the industries represented by this journal are Holmes, Pearson and Co., Keighley, £45; Heap Bros. and Co., Keighley, £111 7s. 10d. and Smith, Marks and Co., Keighley, £36 7s. 6d.

We understand that Messrs. Thomas Smith and Son, of Birmingham have taken space at the Furniture Exhibition, at the Agricultural Hall, in May next, for the exhibition of their bicycle and tricycles. We do not know if any other bicycle firms have

done the same. It will, we hear, be a splendid exhibition, the hall will be handsomely decorated, and concerts will be given twice each day, by large choirs, conducted by Mr. Birch, of H. M. Chapel Royal, and also by the Grenadier Guards, conducted by Mr. Dan Godfrey. We understand the ground floor and galleries will be completely filled with exhibits of artistic furniture and decorative ornaments.

Washing machine manufacturers and makers of general domestic appliances, should exhibit at the forthcoming Furniture Trades Exhibition, which opens at the Agricultural Hall, London, on May 1st. We understand that five-sixths of the available space, ground floor, galleries, and arcade, is already let to cabinet and furniture manufacturers. The hall will be handsomely decorated, and there will be concerts in the morning and afternoon, the latter being given by the Grenadier Guards, conducted by Mr. Dan Godfrey.

BICYCLE MEMS.

Messrs. Burnett and Co., of the Yorkshire Bicycle Works Hunslett, New-road, Leeds, are experiencing a wonderful increase in business. They are receiving orders from all parts of the world. They recently purchased the business of Messrs. Tranter and Morton, of Trowbridge.

At Wolverhampton the bicycle industry is very busy. Messrs G. Devey and Son, since the Stanley show have been selling nearly 80 bicycles a week in addition to tricycles. Mr. W. E. Hart is busy making fittings and ball-bearings, and the other makers, Messrs Lloyd, Gorton, Lewis, Hough and Clark are well employed.

It is expected that Mr. Devey's new "Collapsible" tricycle will meet with a large sale. The chief feature in this machine is that by lifting out the seat the two large wheels can be compressed within a width of 20 inches, thus enabling the machine to pass through any ordinary doorway.

At the Bicycle Exhibition at Birmingham, which occurred during the month, about sixty manufacturers were present with their machines. There was, however, nothing particularly new that had not been shown at the Stanley show.

The Coventry manufacturers are, we understand, now very busy, many of them having more orders than they can conveniently execute.

Mr. Anderton, of Sheffield, we hear is simply so busy that he is bound to refuse orders. Messrs. Hydes and Wigfull are also receiving some large export orders. Messrs. W. Fletcher and Co., who are agents for several Coventry firms, are receiving many local orders for their "Midland" bicycle and tricycle machines, of their own manufacture. Altogether, Sheffield is holding its own very creditably against Coventry competition.

CORRESPONDENCE.

DEAR SIR,—I see that the editor of the Sewing Machine Journal of New York, in his edition of February 23rd, calls for an explanation from me, in regard to my letter to you, which you kindly printed in your edition of February 1st. If you will refer to my letter again you will see I mentioned the Sewing Machine News of New York, not the Journal. I have no doubt you will be pleased to put the matter right. Wishing your journal continued prosperity, Very truly yours.—GEORGE SAWYER.

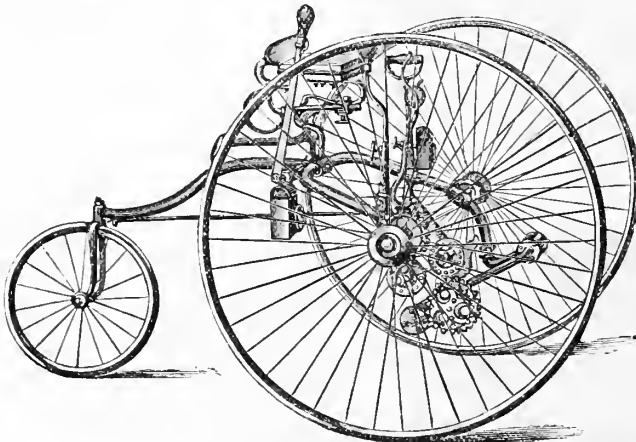
THE STANLEY SHOW.

(CONCLUDING NOTICE.)

SPACE will not permit us to report many exhibits so fully as we should like. We hope, however, in subsequent issues to give separate and lengthier descriptions of many machines we have now passed over with a bare mention of the name.

THE ST. GEORGE'S FOUNDRY COMPANY.

The patent "Rapid" tricycle was shown by this company. It is a machine constructed for attaining high speeds on ordinary roads, and has an arrangement for increasing the power when climbing steep hills, for travelling slowly on rough or uneven roads, and for securing perfect rest to the rider when descending. This is accomplished by means of gearing of a very simple, but effective description, and which is capable of resisting very rough wear and tear. Its seat and handles are adjustable so that it can be ridden by any rider no matter what his size may be. For hill climbing purposes we especially recommend the "Rapid" tricycle, as its feats in this direction are really marvellous. The machine is well-made of sound materials and is well finished.



THE RAPID TRICYCLE.

MESSRS. BAYLISS, THOMAS & CO.

These gentlemen, who constitute one of the largest firms, who manufacture bicycles and tricycles, made a very large and fine exhibit, showing some machines, which for style and finish are second to none in the show. Every one in the cycle world has heard of the "Vecta" bicycles and "Excelsior" tricycles; in fact the majority of tricyclists know far more about the latter machine, than they do about Longfellow's poem bearing that title.

The tricycles first attracted our notice. To begin with, there is the G.P.O. "Excelsior," a machine that has made glad the heart of many a rural postman. A large box is fitted on behind, painted with the orthodox post office colour, a glaring red. This machine is supplied largely to that department of the government controlled by Mr. Fawcett, and it has several minor improvements to make it specially suited to the work of the rural letter carrier. Another machine we noticed was the "Excelsior Pet," as its title suggests of course, constructed for the fair sex. The machine is all plated, has ball bearings and double brake, rendering it exceptional safe. It is fitted with mud guards, soft cushioned seat, &c. On the stand was also "Excelsior Racing," perhaps the lightest tricycle yet constructed, the "Folding Excelsior," a new edition of the well known "Excelsior" that folds quickly into 28-in. without taking any part. the "Duplex" Excelsior, carrying two riders, one before the other, and the "Excelsior," No. 1 having three sizes of wheels, and being a wonderfully easy machine.

THE LEICESTER TRICYCLE COMPANY.

Kirby patent tricycles and patent change-speed or hill climbing gear was manufactured by this company and exhibited at their stand. We think their tricycles somewhat peculiar in appearance—nothing objectionable—far from it, only they strike the visitor as being uncommon in construction. We first noticed their "Patent Safety Folding Tricycle." The operation of folding or unfolding this machine occupies a very few minutes, and when closed will pass through the narrowest possible doorway. When unfolded and ready for use the machine is perfectly firm and rigid. The treadles in this machine act through what is known as "Kirby's Patent Differential Gear" which divides the power equally between the two driving wheels, either when running straight or making sharp turns. This machine, unlike all others, is mounted on behind, and as there is a bar in front it is impossible for the rider to be thrown forwards; at the same time escape is easy from behind in case of danger, and the very step on which he tread acts as a partial brake. Mounting as well as dismounting can be performed while the machine is in motion. This machine (like all made by this firm) is fitted with "Kirby's Patent Balanced Brake," most conveniently situated, and which may be applied instantly to the fullest extent without upsetting the machine or twisting it out o

its proper course, as it distributes an absolutely equal pressure to the tyres (or rubbers) of both driving wheels. It is applied by the arm without the rider being compelled to let go the steering handle.

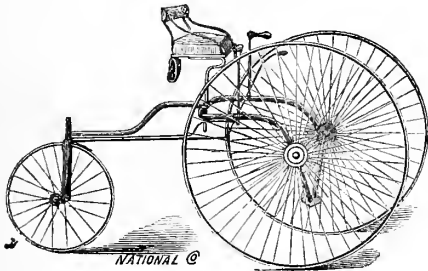
The "Patent Safety Folding Tricycle" runs easy, is noiseless in movement, and appeared in our eye to be certainly a symmetrical and elegant machine.

Another machine made by this company is the "Rigid Patent Safety Tricycle." It is a very similar machine to that we have just described only that it does not fold, being made for those riders who are blessed with larger doorways. For ladies' use a machine is made by this firm similar in appearance and manufacture to the first machine we have described. It is so constructed that there is no danger of the costumes of the fair sex becoming in any way entangled with the working parts. It is an elegant machine and we think it will find favour with the gentler sex.

MESSRS SIMPSON AND SON.

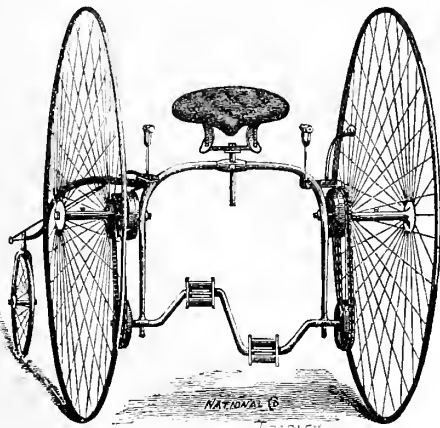
The Improved Defiance Tricycle was shown by this firm. It is an open fronted machine with rear steering. Instead of the usual chain wheels with endless chain, this machine has two sets of light gear wheels whereby great firmness is given to the machine. The chief novelty in the machine is the new automatic double driving gear, which is fitted on the centre part of each lower gear wheel. The machine has a new brake acting simultaneously on both wheels; is well made and finished in first class style.

Some good tricycles worthy the attention of visitors are exhibited by this company. Their "No 5 Tricycle," of which we give an illustration, is, we believe, the only machine in the show driving both wheels circular and straight without gear. It is unencumbered with chains or cogs, thus avoiding useless friction. The machine is open in front, has rotary action, is back steering, and has a good strong brake. In the minor points we notice this machine has a plated luggage rest, adjustable seat, non-corrosive spokes, and similar improved details which form in the whole a valuable tricycle. On referring to their list we notice that high prices for this, as for their other machines, is not their speciality. A rather more costly machine is the "National No. 2." The chief virtue in



No. 5 Tricycle.

this machine is that it makes in all forward running only two tracks thereby economising power. For two reasons a great expense of power is thereby saved. First, on account of the usual



No. 2 Tricycle.

formation of the common roads, which thereby allows the small steering wheel to escape the roughest portion, and second, the obstacles being only once taken. This machine is fitted with the new patent chain, and has a double band brake, which acts upon both wheels, giving the rider complete command. In details of finish, such as nickel-plating, hardened bearings, direct spokes, best rubbers, back steering, adjustable seat, &c., it is of the very best. A good bicycle at a moderate figure we notice amongst the exhibits on this stand and also a sociable tricycle.

THE BIRMINGHAM SMALL ARMS AND METAL COMPANY LIMITED.

We should not like to go so far as to state that the "Compressible" tricycle will double up so small that it would go with ease into the waistcoat pocket, but we have no hesitation in saying that it will so compress that its width is no more than 2 ft. 4 in., and it must be a narrow doorway indeed that will not admit of an object that size. The "Compressible" exhibited on this stand has a folding arrangement, simple yet strong, whereby without the assistance of tools it

can be reduced in width just about one foot. It is not necessary to detach any part of the machine; and as the wheels are always paralleled with one another, the machine when compressed can be wheeled and steered in any required direction just as easily as when in running order. The machine can be compressed, wheeled into a doorway, brought out again and put in running order by a novice, in 1½ minutes. Our two illustrations will give a good idea of this machine.

On the same stand is the "Delta" patent tricycle. This machine combines the advantages of a double driving machine with the form of frames which is most preferred. There is nothing in front of the rider, and the driving of both wheels is attained by the use of a new and very simple apparatus, by which the driving power is conveyed direct to each wheel from both ends of the crank, and not to a cross axle. Its patent driving clutch is self-acting. Unlike cog wheel methods of action, it is immediate, and no obstacles or ground resistance will relieve it; while it instantly relieves itself on taking pressure off the treadles, and in turning circles of any circumference. All useless leg action is entirely dispensed with, the rider having perfect control over the force and number of the strokes. The double band brake overcomes the great objections to single brakes working on one wheel only. It can be adjusted perfectly, and by the action of one handle the brakes are applied to each wheel, thus making one of the most perfect systems of brake power yet introduced upon tricycles. The machine is excellently finished and its bright parts are nickel plated. Complete with leather wallet, spanner, and oil cans.

MESSRS. HYDES AND WIGFULL, (Limited.)

At this stand were exhibited the "Stanley," "Chester," "Marnion" and other bicycles. Perhaps, their handsomest machine is the "Registered" Stanley Semi Racer, it has round hollow forks, ball bearings and is nickel plated. The "Chester" Roadster has broad hollow forks, is all bright and burnished, ball bearings in front wheel and covers to back. It is a strong machine yet it is not heavy in construction. They also exhibit a machine built to show their new ball bearing head. Messrs. Hydes and Wigfall exhibit in all about a dozen machines they are beautifully made and splendidly finished.

MESSRS. LAMPLOUGH AND BROWN.

For some long time past these gentlemen have made it their sole business to make suspension saddles for bicycles and tricycles. Their saddles are now used on the majority of machines that are made. Every season improvements of different kinds have been made in their manufactures and now they are certainly the paragon of perfection. One in particular we notice, Froude's new saddle and spring for bicycles. The peculiarity of this saddle consists in the prolongation behind to enable the rider to bring his weight well back when descending hills. The whole saddle, when the rider sits back, forms a comfortable support for the leg from hip to knee, the peculiarity of the combination of the saddle and spring consists in attaching the saddle to the spring at a point that would be the extreme back of an ordinary saddle. Lastly, advantage is taken of the lengthened rear of the saddle to attach behind a good sized valise. Tourists will find that the arrangement affords special advantages as one can ride downhill with the machine in perfect control. The movement of slipping one's self back and lifting one's thighs on to the saddle and again coming forward into position for driving, occupies so short a time, that one can avail one's self of a very short descent to obtain a temporary rest, which is a great comfort on a long journey. The reach from the step to the extreme rear of the saddle is so short that mounting is greatly facilitated; also on a very steep hill it is advantageous to be so easily able to stand temporarily back on the step. The hind wheel brake has been discarded, chiefly because it does not hold on a steep descent, from the want of weight on the hind wheel, but if weight is brought on the hind wheel sufficient to enable the hind wheel brake to hold, there is this great advantage

in the hind wheel brake, viz. : that in running with the brake on, if the front wheel is free, and the hind wheel checked, one would surmount an obstacle that one would not if the front wheel were checked and the hind wheel free.

MESSRS. M. D. RUCKER, JUNR., & CO.

Any passenger on the Great Eastern Railway, who has travelled many times between Bethnal Green and the City, cannot fail to have noticed a large board, bearing the title of the above firm. It is placed on the top of their bicycle and tricycle manufactory which is the only one of any size in the East of London. This firm exhibited a number of machines which are named the "Rucker." We first wish to draw attention to the "Rucker" bicycle, which is an open fronted rear steerer, and being constructed with their automatic clutch, it is a most perfect double driver. In this machine the rider is placed directly over his work, so that the entire weight can be utilized for driving. The machine is fitted with a powerful double hand brake acting on drum attached to each driving wheel. In this machine a clutch, the ingenuity of which consists in its simplicity, causes both wheels to drive immediately pressure is applied to the treadles, and either wheel is allowed to run free for steering purposes whenever necessary. Also, in descending hills, the rider may cease to work, and the treadles, being free, can then be used as foot-rests. The clutch is quite silent, and so simple that so much annoyance in some tricycles. By raising a lever with the left hand, a band-brake is applied equally to each wheel, and it is so powerful that the tricycle can be kept under complete control down the steepest hill, and can be brought to a standstill in a few yards. Another great advantage is that each hand may be used for steering, leaving the other free, and the machine will keep a straight course, if both are taken off the handles. The machine is well and carefully made, and is built of the very best materials.

A good roadster is the "Rucker" bicycle, it is slightly in appearance and is made with many improvements, including Rudge's bearings. All their machines are well finished and well made. On their stand we also noticed the "Devon Safety" bicycle, which has been invented by them to meet the wants of those who, for various reasons, do not care to ride the ordinary bicycle; many nervous riders and those who have to ride over rough roads at night, have long felt the want of such an invention. It is in appearance very similar to the ordinary bicycle, the wheels, backbone, and forks being exactly the same; but instead of being driven by a pedal attachment to the crank, it is driven by two levers, working as follows:—From the top of the front fork a lever is hung; the end of this lever is joined to another lever, having in the centre a pin which works in the slot of the crank of the bicycle, and at its other end an adjustable pedal. The pedals are thus brought about 4 inches behind the front wheel forks, and this enables the saddle to be the same distance further back on the spring. The steering handles are also slightly bent backwards. The course of the pedals is elliptical, and being exactly under the rider's feet, he can utilize its weight. The position of the saddle being so far behind the centre of the wheel enables the rider to run over obstacles in the road with perfect safety. Owing to the arrangement of the "Devon Safety" a longer spring is used, and the same bicycle can be adjusted to suit riders of different heights. The patent roller saddle is especially useful as it enables the rider to throw his weight from side to side without any friction resulting. The back-peddalling power is very great, and brake is seldom required to be used. Ordinary bicycles can be converted by this firm, so as to be used as the ordinary or safety.

MESSRS. W. A. LLOYD AND CO.

The "King of the Road" exhibited at this stand is built entirely of weldless steel tube. It has a Stanley head, best buffalo horn handles, Brown's patent Arolons bearings, Lamplough and Brown's suspension saddle. The "Climax" is a very similar bicycle, strongly built of good materials and produced at a low figure. This firm also make the "XL All" and the "Pony" bicycle. This firm manufacture very largely bicycle fittings and sundries and we recommend bicycle dealers and repairers to obtain their list, as they will be able to buy from it many articles at a reasonable price.

THE TENSION BICYCLE & ARROW TRICYCLE CO.

A ride on a tricycle is very enjoyable so long as the road is even and free from steep hills, but in this tight little island there are very few roads unless it be in flat unpicturesque Norfolk, that are free from sudden rises and steep descent. Indeed, it is just these hills and vales that give a charm to the country road, for who cares for a district looking as though it were levelled flat with a gigantic steam roller. So the tricyclist, who is forced to dismount, and with sweating brow push his machine up the hill, the charm of country is altogether lost. For country tricyclists in mounting hills the above company show a valuable invention which can be applied to any machine. It is called the "Patent Hill-Climbing gear." And is shown fitted to their "Arrow" Tricycles. This gear will enable a rider quite easily to take the steepest hill, while at the same time it will ensure his safe descent. The above company also showed a sociable tricycle, fitted with their hill climbing gear. We have heard their invention very highly spoken of by many who have tried it.

MR. GOY.

This well known athletic outfitter and cycle agent showed a collection of uniforms, balls, saddles, lamps, and kindred articles.

MESSRS. HENRY KEAT & SONS.

A collection of bugles, buglets, cornets and such articles expressly made for bicyclists are exhibited by this firm. We noticed a buglet, 4 turns, oval bell six inches high, the smallest ever made. This firm are to bicyclists exactly what Broadwood or Collard and Collard are to pianists, they supply the best instruments in the largest quantity. Shippers or the trade having orders for these articles will find they can be obtained on favourable terms from Messrs Keat and Sons, 105, Matthias-road, London, N.

(See Advertisement Page 38).

MESSRS. W. KEEN & CO.

Two finely finished bicycles are exhibited by this firm, the Norwood "Racer," and the "Norwood Roadster." Norwood and the environs of the Crystal Palace, is a region much frequented by bicyclists, and this firm does some considerable trade with the members of South London Clubs. The "Norwood" Roadster is fitted with hollow steel backbone, ball bearings to both wheels, new adjustable spring, and many improvements. The "Norwood" Racer is specially constructed to obtain a maximum of strength with minimum of weight, a 56-in. weighing about 30-lbs. It is fitted with $\frac{1}{2}$ -inch front and $\frac{1}{2}$ -inch hind rims (of special section), hollow steel backbone and forks, ball bearings to both wheels.

MESSRS. J. PORTER & CO.

A finely finished machine is the "Clapham," which was shown by this firm. It is fitted with ball bearings to both wheels, hollow forks, patent potential rims, front lever spring brake, best weldless steel backbone, new pattern head, spring fitted with new piston slide, best red moulded or non-slipping rubber, $\frac{1}{2}$ to front wheel $\frac{1}{2}$ to backed ditto, dust cap to head, painted in two colours, and pickled out with gold. It is an elegant machine, constructed of good materials. The "Victoria" bicycle and "Clapham" youths bicycle are also made by these Exhibitors.

MR. ALBERT PHILLIPS.

This gentleman showed a number of machines which he has named the "Go-Lightly." They are certainly not misnamed for they certainly do go lightly, exceedingly so. His No. 1 bicycle, is a good machine, built with Rudge's dust proof bearings to front wheels, ball bearings to back wheels, Hancock's tyres and a host of other improvements. No. 2 a similar machine is a good roadster; it is well made, of good materials, and is well finished. The "Go-Lightly" tricycle is a graceful machine; its framework is light yet durable. It has double brake acting on large wheels, ball bearings attached. Some youths and ladies, and juvenile tricycles are also built by this manufacturer.

MR. DEARLOVE

This gentleman exhibited a collection of bicycling and tricycling lamps, and the various accessories necessary to bicycle riding. One of their exhibits the "King of the Road" lamp is well known to most riders. It gives a powerful clear light and is well adapted for its purpose. Bicycle agents will find this exhibitor can supply them with anything they require in the way of either lamps or sundries.

MR. WILLIAM BOWN.

Although Mr. Bown only occupied one stand, his manufactures were to be met with all over the exhibition. Certainly the majority of bicycles and tricycles that were exhibited at the show, were beholden for one of the most delicate parts of their mechanism, the bearings, to the ingenuity of Mr. Bown. There are other bearings, but in our humble opinion those of this manufacturer certainly carry off the palm. The "Aeolus" adjustable ball bearings are to well-known to need description, and when we say they are universally adjustable, dust proof, that a long distance can be travelled without lubrication and that they reduce friction to a minimum; we have paid them the compliment they well deserved. Mr. Bown's bearings are approved by both amateur and professional riders, and as they form the most vital part of a bicycle, and are now made so perfectly, it is no wonder that the majority of manufacturers use them in their machines. Meeting with such success in the manufacture of bicycle bearings Mr. Bown turned his attention to the tricycle, and he now makes for the same the best bearings extant. They are an adaptation of his well-known Aeolus bearings, and embody all the valuable qualifications of those made for the bicycle, viz.—Universal adjustment, which can be easily effected without removing any of the parts from the tricycle; the prevention of dirt or dust getting into the interior, and the reducing of the friction of the wearing parts to the lowest possible minimum. Such advantages as the foregoing are worthy of the attention of all tricyclists. We notice Mr. Bown has a list as long as your arm of unsolicited testimonials. All the requisites for the cycle trade are made by Mr. Bown including stampings in iron and steel pedals, cranks, hubbs, flanges, spokes and other parts, supplied in the finished or unfinished state to bicycle manufacturers, all the principal makers doing extensively with him.

MESSRS. RICHARDSON ELLISON & CO.

This firm who are in other words "The Zephyr Bicycle and Tricycle Co" showed no less than seven different kinds of tricycle, all of course their own manufacture and many of them novel in construction.

"The Special Zephyr" has no chain or pinion wheels and is quite novel in action. On the left side there are two bars, which by a very simple action communicate power to the wheels. The power expended on the pedals is divided between the bars so that both assist in propelling. To our mind it is one of the simplest and most effective driving motions yet supplied to a tricycle. The brake of this machine has been wonderfully improved and now does not require to be held while in action. The "Rob Roy" tricycle which we next notice has undergone several improvements and now comes out an excellent machine. The Dual is a tricycle having different gear to each wheel, right for speed and left for power. Of course only one can be used at a time. The alteration can be made quickly by the rider without dismounting or even stopping. Both can be ungearred when descending hills. The workmanship of this machine was excellent. The Magnet is another machine made by this company. It has double driving wheels (neatly made) and front steering wheel. It will pedal either backwards or forwards. This firm also exhibit the "Sociable Rob Roy" a machine remarkable steady to ride owing to rear wheel being a long way behind. We also noticed at this stand the "Coventry Zephyr" bicycle one of the handsomest machines in the show.

MESSRS W. FORD AND CO.

The "Diamond," the "Forrester" and the "Excelsior" bicycles cheap and of good quality were shown by Messrs. Ford and Co.

THE COVENTRY IMPERIAL BICYCLE AND TRICYCLE COMPANY.

At this stand we first notice the "Special" bicycle, a machine with Rudge's Patent Ball Bearings back and front, best hollow weldless steel forks and backbone, improved Stanley head, best bold gun metal hubs, nicely dished to receive bearings, break on front wheel felloes crescent-shaped steel, with best red moulded rubbers firmly cemented into same, adjustable step, spokes of best steel, headed by machinery to secure firm and even head. The "Racer" bicycle is another exhibit of this Company. It is fitted with Rudge's bearings back and front, has weldless steel hollow forks and back, bone, gun-metal hubs, recessed to receive bearings, straight or bent handle bars, best red rubbers, firmly cemented to rims, and burnished all over.

This Company also exhibit the "Coventry Imperial Bicycle No 1," a "Youth's Bicycle," and a "Sociable Tricycle." The latter is made to drive on either side; it is fitted up in a substantial manner, is highly finished, and japanned and lined. Another tricycle made by this Company is the "Coventry Imperial Special Tricycle," which is adapted for one rider of either sex. This machine is fitted up in first-class style, and the framework of it is entirely of hollow steel. The most uncommon machine in the Exhibition is perhaps to be found at this stand; it is a lightly-made hand-lever tricycle, constructed for the use of those who have had the misfortune to lose their legs. Both the driving and steering are done entirely by hand. A glance at the neat list issued by this Company at once convinces us that they make low prices one of their specialities.

MR. C. GORTON.

Some cheap machines including the "Racer," "Extra Special Perfection," and "Perfection" bicycles, and "Special" tricycle were exhibited.

THE SOUTH LONDON MACHINEIST.

The "Nancy Lee" bicycle and the "Flying Scud" tricycles attracted the attention of the visitor at this stand. We shall give a full description of their machines in a subsequent issue.

MESSRS. THOMAS SMITH AND SON.

This firm exhibited several specimens of the "Viaduct" bicycle and the "Empress" tricycle.

MESSRS. HUMBER, MARRIOTT AND COOPER.

About twenty different specimens of the "Humber" bicycle constructed for road and racing were shown, together with several tricycles.

THE MANCHESTER TRICYCLE CO.

The "Favourite" and the "Dreadnought" tricycles were exhibited at this stand.

MR. W. ANDREWS.

The "Sanspareil" bicycle a splendid machine was shown at this stand. Its patent head was fully described in our February issue.

THE CROWN LAMP CO.

Some excellent bicycle and tricycle lamps were shown by this firm. We shall give a full description of their excellent manufacturers in a subsequent issue.

MESSRS. CHALLIS BROS.

Some excellent stop bells, sleigh bells, and other tricycle accessories were shown by this firm. Challis's patent stop bell is better suited for the purpose for which it is intended than any bell we have seen. They are now in use by all the leading clubs.

MESSRS MAYNARD, HARRIS AND CO.

The "Devon" tricycle described elsewhere was shown by these exhibitors.

AN UNPLEASANT INCIDENT.

(By a Continental Sewing Machine Agent.)

Palermo, Sicily, March the 5th, 1882.

I propose to give you a short account of my last commercial trip to Paris. In the early part of present year, the London manager of the White Co., Ohio, wrote to Messrs. Turner and Co. Brussels, their agents, to send an able man to meet one of them in Paris.

I was delighted, packed and started at a short notice, and arrived safely at the Hotel Britannique, Avenue Victoria, a respectable house, kept by two English ladies, and known to me some twelve years. In two days our special business was finished, when it unfortunately occurred to Mr. S., that he had a letter in his pocket from a firm, respecting an agency for the "White," so we visited the writers and replied in person, not being far from their establishment. When we had made our business known, we were received with much politeness, and I recognized in one of the partners an ex-employé of the late W. & W. agent. Petit was his name, it is the French word for small, it also stands for insignificant and mean as the case may be. The scene was a small office at the back of a small store on the Boulevard Sebastopol. A table covered with papers and three chairs. That one situated nearest the table was occupied by P., one nearest the door by myself, and Mr. S. was quietly seated on the remaining one.

After the usual overture of common-place remarks, the curtain rose on the Drama, by P. turning over the papers that lay on his table, in an agitated manner, and at last declaring that when we entered there was a 500 l. note upon that table; the inference was plain—one of us must have taken it. The position was awkward. I said to S., "Let him hunt it up," and he did hunt, but he could not draw that note. I said to P. that we were vexed at his insinuation, and should not leave until he had found it. P. said he didn't intend we should, and I looked like knocking him down. The police arrived. The Parisian policeman is military in appearance, and wears a cocked hat and a sword.

The fourth act commenced, the chorus came on and took the form of a crowd of small boys and idlers, they pressed their olfactory organs against the plate glass window, anxious to know if it was a murder or fire. P. was a model of French excitement, injured innocence; ourselves, were cool and collected; the police, were justice and force; and the shopgirl, beauty bewildered. We were not handcuffed, but marched off to the station in double file, I kept up a joking chat with S., who followed behind. So we reached the station and stood in the awful presence of the commissioner, P. stated the case. "C'est grave said the agent and all around eyed us suspiciously, it looked like the deepest dungeon below the moat, when I walked our deliverer. The note had been found. All might have ended by apology, but Petit was determined to play the second signification of his name and be mean; he preferred to explain to the police authority and to excuse himself by stating it as his opinion that we must have slipped the note into the drawer when we found ourselves detected. I held S. back by the tail of his coat, as he was preparing to go for Petit's Jewish nose. We were told we might depart; we did, and the evening and the morning were the first day we dreamt of vengeance and damages. Next morning we called upon Turner and Co.'s Paris lawyer, a shrewd and intelligent Englishman, who explained that French law was queer on this point. The accusation had not been signed, we should get but insignificant damages, if any, and should have very frequently to come to Paris as witness. But we could demand a written apology upon stamped paper and Petits signature could be registered. This, he explained, was absolutely necessary, for a man who accuses a gentleman, who come to his office by appointment, of stealing a miserable note, would certainly deny his signature, Petit impersonated the third signification of his name and sank to insignificance. He said it was a lesson for him; we were sure that it was a lesson for us and we left Paris for Rouen, where we booked an order for 800 "Whites" and returned to London, well satisfied with our experience.



BILLS OF SALE.

Bicknell, Stephen, Victoria-villas, 85, Danby-street, Peckham sewing machine manager; £20 3s. In favour of John R. Rowland. Filed February 25th.

Tompsett, Charles, 40, West-street, Erith, Kent, ironmonger, &c.; £72. &c. In favour of Thomas Fairhead. Filed February 24th.

Day, George, 2, Hunter-terrace, Hinton-road, Camberwell, sewing machine agent; £50. In favour of Herbert C. Gosnell. Filed February 27.

Whittle, Henry Woollam and wife, 25, Southgate-street, Glo'ster, ironmonger, &c.; £265, &c. In favour of Commercial, &c., Advance Bank. Filed March 4.

LIQUIDATIONS BY ARRANGEMENTS.

Robins, Nicholas, Bideford, Devon, ironmonger; February 22.

Robinson, Alfred Hayward, King's-road, Southsea, ironmonger; February 21.

Miller, Joseph, King William-street, and Penny-street, both Blackburn, general sewing machine agent, &c.; March 3.

Walker, Tom, Cockermouth, ironmonger, &c., March 2.

Emmerson, H. J., Hastings, ironmonger.

Meeklah, M., Nottingham, furnishing ironmonger.

Welshman and Son, Christchurch, ironmongers.

Campbell, G. M., Crook, ironmonger.

Denton, F. S., Bradford, ironmonger.

Stoke, F. and Co., Bradford, ironmonger.

Walker, T., Cockermouth, ironmonger.

Davy, P. M. D. and F., Manchester and elsewhere, ironmongers.

Entwhistle, W. A., and Grimshaw, J., Sunny Bank, near Moston, machinist.

Hammond, G., Brighton, ironmonger.

Hounsell, H. S., Sheerness, ironmonger.

Mathews, C. R., High Holborn, lamp manufacturer.

Powell, R. Ebenezer, Croydon, ironmonger.

Williams, E. H., Llandudno, ironmonger.

COUNTY COURT JUDGMENTS.

Gosnell, W., Butt-road, Colchester, ironmonger; £11 4s. 3d. January 16.

Portsmouth, Albert, Basingstoke, Hants, ironmonger; £18 12s. 10d. January 20.

Rogers, J. R., 31, Commercial-street, Ebbw Vale, Mons., ironmonger; £14 0s. 10d. January 24.

Smith, A. C. & Co., Coronation-street, Sunderland, ironmonger; £17 19s. 2d. January 14.

Weston, C. F., Godalming, Surrey, ironmonger; £20 11s. 3d. January 16.

Weston, Charles Frederick, Godalming, Surrey, ironmonger; £36 1s. 8d. January 19.

Wright, W., 43, William-street, Woolwich, ironmonger; £16 3s. 9d. January 18.

Chitham, S., Market Bosworth, Leicestershire, ironmonger; £18 18s. 11d. February 1.

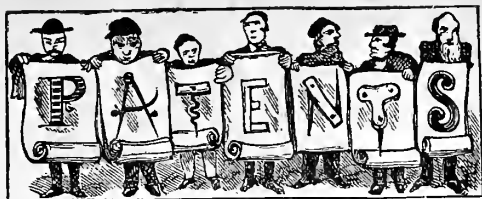
Fradd, George, Torquay, Devon, ironmonger; £18 4s. 3d. January 26.

Jones, W., Birmingham House, Conway, Carnarvonshire, ironmonger; £13 12s. 6d. January 26.

Holland, W., 160, Great Hampton-street, Birmingham, bicycle manufacturer.

Shave, William do do do. £19 16s. 5d. January 30 (trading as The St. George's Bicycle & Tricycle Co.)

Rowlands, Ellis, King's Head-street, Pwllheli, Carnarvonshire, ironmonger; £18 10s. 9d. February 6.



The following list has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette," by G. F. REDFERN, Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.

APPLICATION FOR LETTERS PATENT :-

- No. 722. J. W. Randall, of Chatham, for an improved combined article of furniture for use as a night commode and cupboard. Dated February 14, 1882.
- „ 746. T. FitzGerald Wintour, of Bloomsbury, London, for improvements in the construction of ventilating apparatus. Dated February 16, 1882.
- „ 751. J. B. Howie, of Glasgow, for improvements in motive power mechanism for operating sewing machines and for other like purposes. Dated February 16, 1882.
- „ 773. J. Poole, of Bradford, Yorkshire, for improvements in knitting machines. Dated February 17, 1882.
- „ 779. E. Outram, of Greetland, Yorkshire, for improvements in pianofortes, and in the means of stringing, regulating, and controlling the pitch or tone thereof. Dated February 17, 1882.
- „ 796. J. Harrington, of Coventry, for improvements in tricycles and other velocipedes. Dated February 18, 1882.
- „ 826. A. C. Adam, Bleacher, Dyer, and Cloth Finisher, and D. Stewart, Engineer, both of Glasgow, for improvements in machinery for scouring, milling, fulling, washing, and wringing woven fabrics. Dated February 21, 1882.
- „ 841. J. W. Watts, of Countesthorpe, Leicestershire, Hosiery Manufacturer, for improvements in circular knitting machines. Dated February 21, 1882.
- „ 845. C. Edwards, of Birmingham, for improvements in the seats or saddles of bicycles and other velocipedes. Dated February 21, 1882.
- „ 848. J. Humpage, of Brunswick-street, Bristol, Engineer and Machinist, for improvements in velocipedes. Dated February 21, 1882.
- „ 877. H. Lees, of Ashton-under-Lyne, Lancashire, Watch Maker, for improvements in alarm bells for bicycles, tricycles, and other wheeled vehicles. Dated February 23, 1882.
- „ 947. F. H. F. Engel—a communication from J. Hirsch, of Stockholm, for improvements in thimbles. Dated February 27, 1882.
- „ 956. C. D. Abel—a communication from E. Oehlmann, of Berlin, for improvements in ventilating apparatus. Dated February 27, 1882.
- „ 967. F. Wirth—a communication from E. Schöneberg, of Bockenheim, near Frankfurt-on-the-Main, for improvements in stoves chief by designed for warming rooms or apartments. Dated February 28, 1882.
- „ 996. R. H. Brandon—a communication from the Morley Sewing Machine Company, of Boston, Massachusetts, United States, for improvements in machines for sewing flat buttons to fabrics, &c. Dated March 1, 1882.

- No. 1,001. S. Fry, of Windmill-hill, Hampstead, London, Sculptor, for increasing the safety of riders of velocipedes, called the safety 'cycle saddle. Dated March 2, 1882.
- „ 1,018. G. Singer, Velocipede Manufacturer, and R. H. Lea, Commercial Clerk, both of Coventry, for improvements in velocipedes. Dated March 3, 1882.
- „ 1,052. T. H. Ward, of Tipton, Staffordshire, Engineer, for an improved velocipede or vehicle for locomotion by manual power. Dated March 4, 1882.
- „ 1,060. F. H. F. Engel—a communication from W. Osten, of Hamburg, for a new or improved apparatus for testing butter. Dated March 4, 1882.
- „ 1,092. T. Priestly, of Bradford, Yorkshire, Stuff Manufacturer, for improvements in machinery and apparatus employed in knitting machines. Dated March 7, 1882.
- „ 1,098. J. M. Taylor, of Seer-green, Buckinghamshire, and G. Wethered, of Maidenhead, Berkshire, for improvements in means for working velocipedes. Dated March 7, 1882.
- „ 1,100. J. Ainsworth, of Brinscall, Lancashire, for improvements in pianofortes and similar keyed instruments. Dated March 7, 1882.
- „ 1,108. W. R. Lake—a communication from J. Jenkins, of Mont Clair, New Jersey, United States, for improvements in safety pins. Dated March 7, 1882.
- „ 1,114. W. Skaife, of 671, Commercial-road, Limehouse, London, for improvements in lamps for bicycles, tricycles, and like vehicles. Dated March 8, 1882.
- „ 1,146. A. Squire, of 6, Wrotham-road, Camden-road, London, for improvements in the actions of pianofortes, upright and horizontal, and for increasing the strength and power of tone in the aforesaid pianofortes. Dated March 9, 1882.
- „ 1,155. E. Jones, of 30, Wellington-road, Birmingham, for percolating coffee jugs. Dated March 10, 1882.
- „ 1,176. T. F. D. Heap, of Wilmington-square, Metal Worker, and J. Rettie, of Hatton-garden, Engineer, both in London, for a new or improved spoon. Dated March 10, 1882.
- „ 1,192. W. R. Lake—a communication from E. J. Toof, of New Haven, Connecticut, United States, for improvements in and relating to apparatus for folding, tucking, braiding, or similar purposes, and designed to serve as an attachment to a sewing machine. Dated March 11, 1882.
- „ 1,194. W. R. Lake—a communication from E. J. Toof, of New Haven, Connecticut, United States, for improvements in and relating to apparatus for ruffling, braiding, or similar purposes, and designed to serve as an attachment to a sewing machine. Dated March 11, 1882.
- „ 1,200. F. Des Voeux—a communication from R. Huebner, of Berlin, for improvements in mincing machines for sausage making and the like. Dated March 13, 1882.
- „ 1,210. R. H. Bishop, of Liverpool-road, and W. Down, Draughtsman, of Vicars-road, both in London, for improvements in knife cleaning machines. Dated March 13, 1882.

Letters Patent have been issued for the following :-

- No. 3,547. A. Francois, of Douai, France, for improvements in sewing machines. Dated August 16, 1881.
- „ 3,576. M. A. Weir, of Gracechurch-street, London, for improvements in velocipedes. Dated August 17, 1881.
- „ 3,688. A. Watkins, of 30, St. George's-square, Regent's-park-road, London, for improvements in sewing machines, and in apparatus for driving the same, so as to render them self-acting. Dated August 24, 1881.

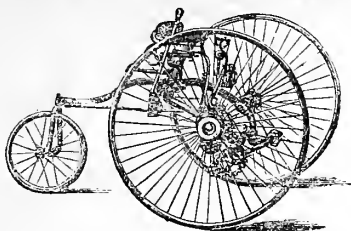
- No. 3,697. G. R. Godsall, and J. J. C. Read, both of Birmingham, Manufacturers, for an improved bicycle lamp. Dated August 25, 1881.
- „ 3,699. J. Sefton, of Belfast, Mechanical Engineer, for improvements in hem-stitching and other sewing machines. Dated August 25, 1881.
- „ 3,738. E. Haskell, Gas Engineer, of 280, Oxford-street, and J. W. Bayley, Architect, of 18, Fulham-place, Paddington, London, for improved apparatus or appliances for heating by gas. Dated August 27, 1881.
- „ 3,827. C. D. Abel—a communication from H. Bukofzer, of Berlin, for improvements in machinery for the manufacture of ruffled, kilted, or pleated fabrics. Dated September 2, 1881.
- „ 3,841. F. J. Gardner, of Birmingham, Machinist, for improvements in machinery for mincing meat and other substances. Dated September 3, 1881.
- „ 3,888. H. Haes, of Wednesbury, Staffordshire, for improvements in and applicable to bicycles. Dated September 8, 1881.
- „ 3,921. W. R. Lake—a communication from J. Gutmann, of Berlin, Sewing Machine Manufacturer, for improvements in button-hole stitching apparatus, designed to serve as attachment for sewing machines. Dated September 9, 1881.
- „ 3,938. A. Shaw, of Lockwood, near Huddersfield, Yorkshire, for an improved construction of frame for washing machines, wringing machines, and sewing machines. Dated September 12, 1881.
- „ 3,972. S. C. Davidson, of Belfast, Merchant, for improvements in stoves or heating apparatus. Dated September 14, 1881.
- „ 4,010. J. Murray—a communication from La Société des Spécialités Mécaniques réunies, of Paris, for an improved cooking stove. Dated September 17, 1881.
- „ 4,203. J. T. Goudie, of Glasgow, for a new or improved vessel or appliance for heating or retaining heat in liquids or beverages, such as milk, tea, and coffee. Dated September 29, 1881.
- „ 4,431. H. E. Newton—a communication from J. Jorgensen, of Petersburg, Virginia, United States, for improvements in tables and cabinets for sewing and other machines and instruments. Dated October 11, 1881.
- „ 4,434. A. M. Clerk—a communication from S. N. Silver, of Auburn, and C. E. Page, of Biddeford, both in Maine, United States, for improvements in tricycles. Dated October 11, 1881.
- „ 4,548. S. Hall, of Harrington-street, Hampstead-road, London, for improvements in velocipedes. Dated October 18, 1881.
- „ 4,662. E. P. Alexander—a communication from C. Martin, of Paris, Manufacturer of Gas-Heating Apparatus, for improvements in apparatus for heating baths and greenhouses, and for other like purposes. Dated October 25, 1881.
- „ 4,663. E. P. Alexander—a communication from C. Martin, of Paris, Manufacturer of Gas-Heating Apparatus, for improvements in burners for gas-stoves for cooking and heating purposes. Dated October 25, 1881.
- „ 5,329. C. A. Barlow—a communication from Messrs. Wetter Brothers, of St. Gall, Switzerland, for improvements in the manufacture of machine embroidery. Dated December 6, 1881.
- „ 5,343. G. Browning, of Glasgow, Engineer, for improvements in kitting, plaiting, or pleating machines. Dated December 7, 1881.

- No. 5,424. E. A. Rippingille, of Aston-juxta-Birmingham, for improvements in gas stoves. Dated December 12, 1881.
- „ 5,480. W. R. Lake—a communication from F. H. Chilton, of New York, United States, for improvements in embroidering apparatus for sewing machines. Dated December 14, 1881.
- „ 136. J. A. Slater, and M. N. Brophy, both of 251, High Holborn, London, for improvements in gas, or gas and air cooking apparatus. Dated January 10, 1882.

PATENTS WHICH HAVE BECOME VOID :—

- No. 486. F. Cafferata, 31, Everton-road, and 18, Wilton-street, both in Liverpool, for improvements in and relating to bicycles and some tricycles, parts of which improvements are applicable also in other cases where cranks are made removable. Dated February 7, 1879.
- „ 556. J. Kayser, of Kaiserslautern, Germany, for an improved apparatus for automatically spooling or winding thread for shuttle sewing machines. Dated February 12, 1879.
- „ 517. F. H. F. Engel—a communication from Biernatzki and Company, of Hamburg, for improvements in knitting machines. Dated February 15, 1879.
- „ 621. J. Puntis and T. Puntis, both of Upton-park, London, for improvements in bicycles, tricycles, and other velocipedes or wheeled vehicles propelled by manual labour. Dated February 15, 1879.
- „ 636. W. C. Joyce, of Ruthin, Denbighshire, for improved manufacture of spools, and application thereof to sewing machine purposes. Dated February 15, 1879.
- „ 470. J. H. Cooper, of Rotherby, T. A. W. Clarke, and E. Corah, both of Leicester, all in Leicestershire, for improvements in knitting machines. Dated February 8, 1875.
- „ 546. E. Shaw, of Manchester, Perambulator Manufacturer, for improvements in wheels for perambulators, velocipedes, and all descriptions of carriages or vehicles. Dated February 15, 1875.
- No. 2,246. G. Singer, velocipedes 6
- „ 2,303. G. B. Lovedee, perambulators, &c. 2
- „ 2,906. J. Maas and J. Browne, pianofortes, &c. 2
- „ 2,917. G. W. Von Nawrocki, thread bobbins or winders for sewing machines, &c. 6
- „ 2,299. H. H. Lake, machine for cleaning and polishing knives 4
- „ 3,040. J. H. Porter, apparatus for purifying water 6
- „ 3,043. G. J. T. Barrett, bicycles, &c. 2
- „ 3,108. H. J. Haddan, apparatus for scouring and cleansing 2
- „ 3,110. W. H. Howorth, propelling tricycles, &c. 2
- „ 3,116. G. Furness and J. Robertshaw, appliances for raising blinds, &c., 6
- „ 3,120. H. Brandes, washing machines and kiers 2
- „ 3,180. J. G. Smith, tricycles 6
- „ 3,194. G. G. M. Hardingham, scissors or hand shears 6
- „ 3,199. J. N. Rowe, combination carriage for common roads 6
- „ 3,200. A. Burdess, driving mechanism for tricycles, &c. 6
- „ 3,212. G. Singer, velocipedes 6
- „ 3,245. T. Brown, monocycle 2
- „ 3,289. W. K. Hydes, bicycles 2
- „ 3,298. D. Mills, apparatus or mechanism to be applied to a sewing machine to adapt the same for stitching or sewing button-holes 6
- „ 3,343. J. M. Tyrer, velocipedes 2
- „ 3,387. W. G. Rawbone, skates 2

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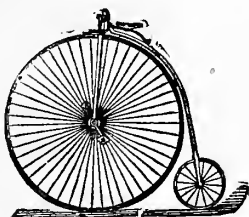


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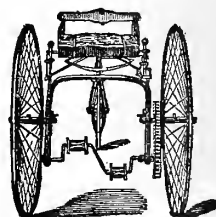
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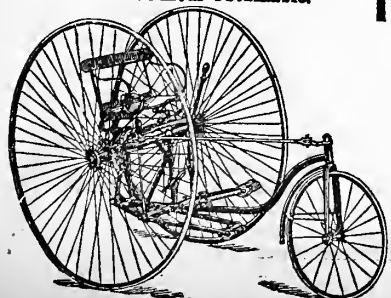
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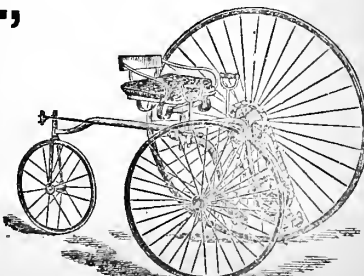
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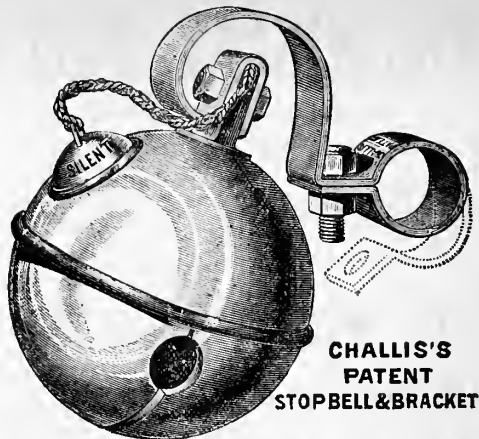
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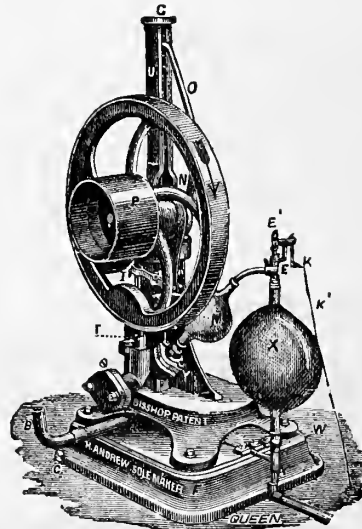
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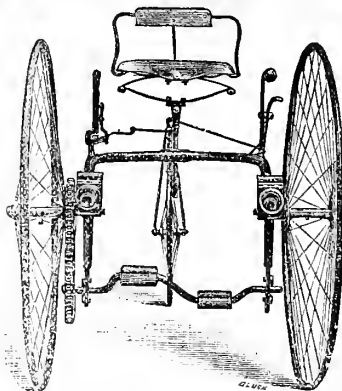
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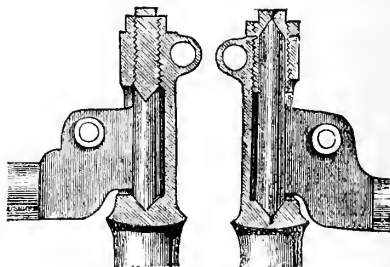
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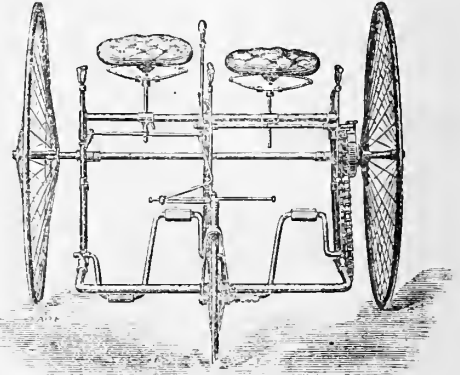
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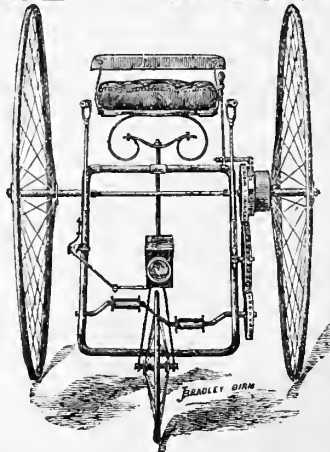
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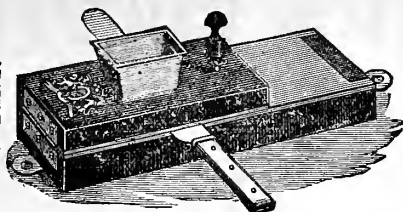
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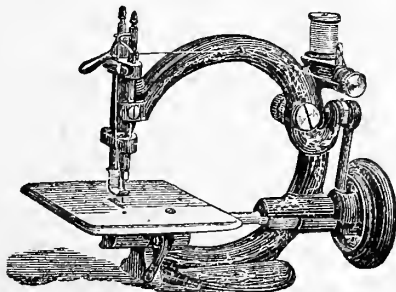
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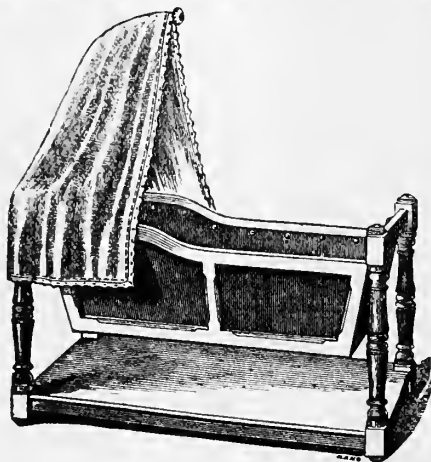
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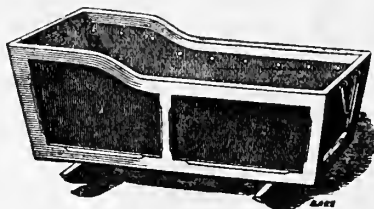
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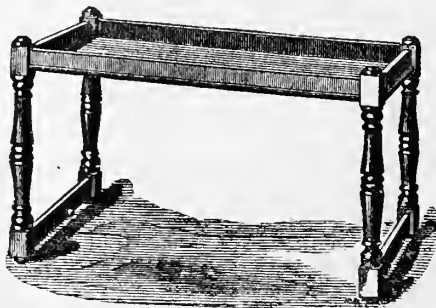
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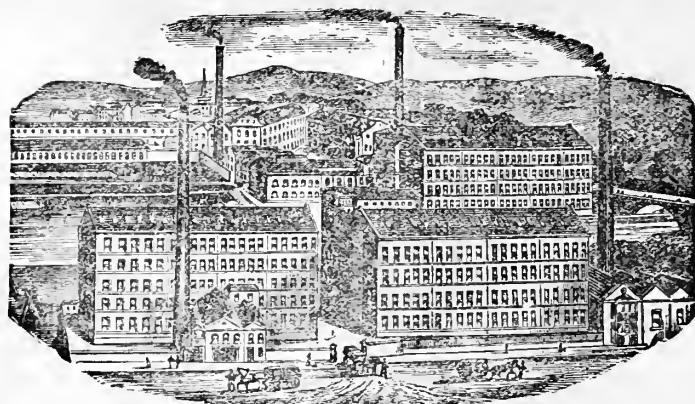
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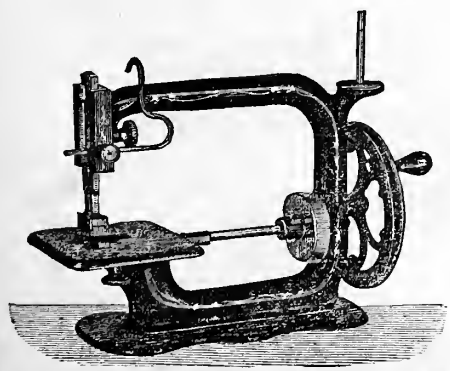


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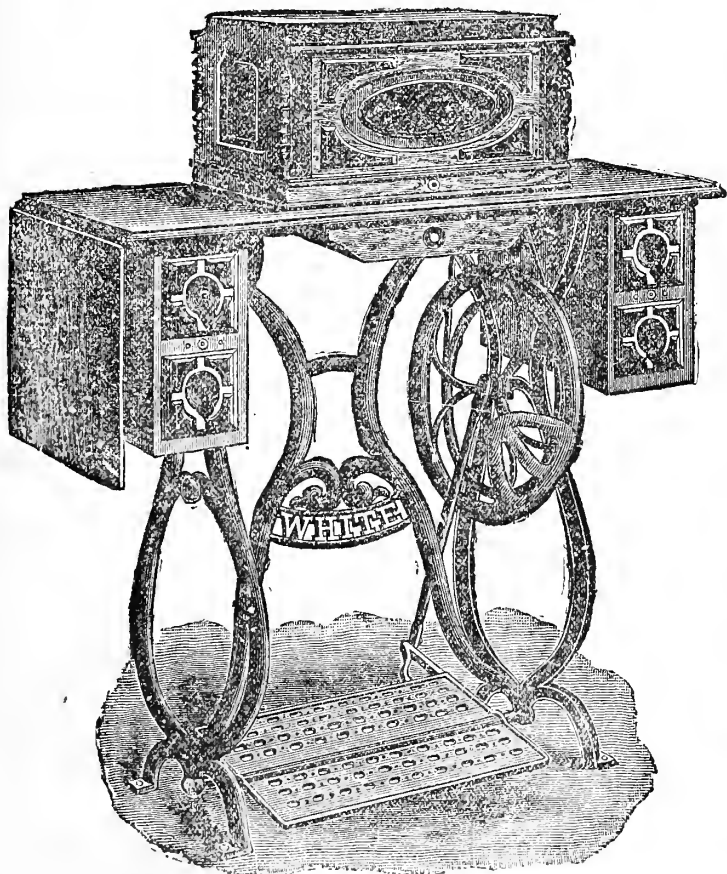
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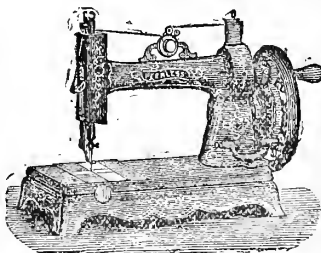
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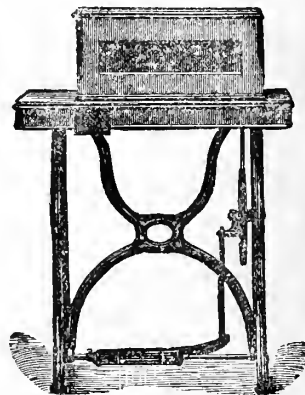
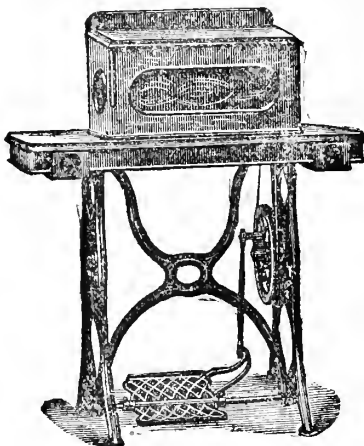
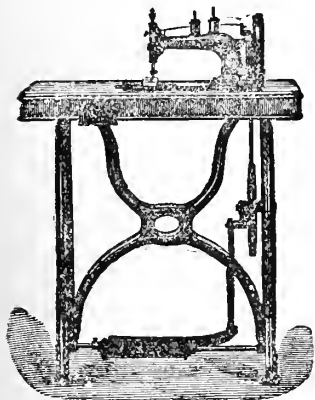
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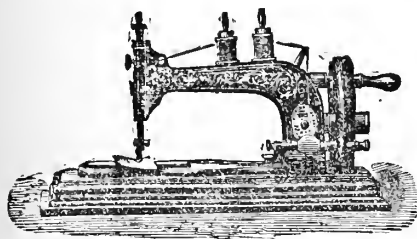
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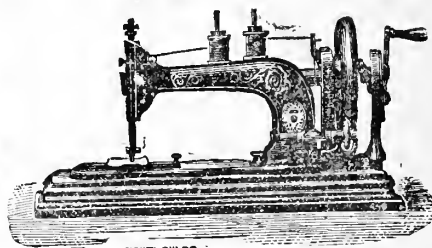
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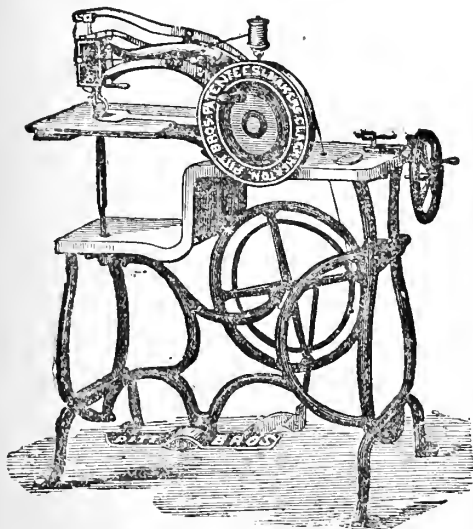
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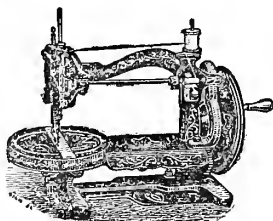


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THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c.—(See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work. Is fitted with the latest improvements—loose wheel, and (Registered) Automatic Bobbin Winder.

Testimonials, Prospectuses, Samples of Work, and all particulars free on application

ALSO

Raymond's No. 1 and 2 TREADLE MACHINES for Families, Dressmakers, and Manufacturers

AGENTS WANTED.

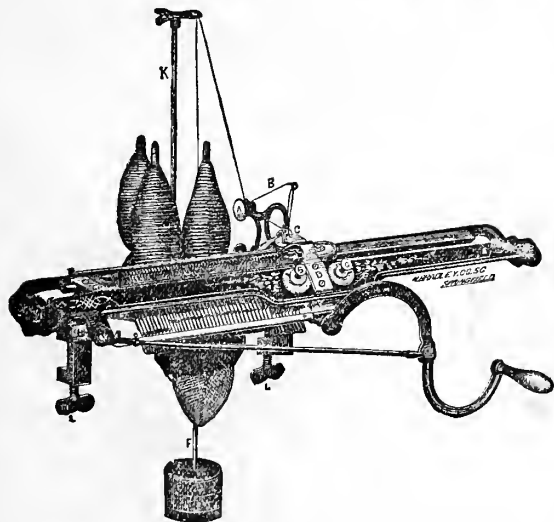
CHIEF DEPÔT FOR EUROPE AND EXPORT:

11, MOUNT PLEASANT, LIVERPOOL.

P. FRANK, AGENT.

ESTABLISHED 1863

THE GENUINE "LAMB" ORIGINAL KNITTING MACHINE.



"LAMB," Registered Trade Mark.

Knits Hosiery of all sizes and perfect shape without seams exactly like handknitting;—knits also the greatest variety of different Garments, Fancy Goods, &c., &c.

It is worked by hand,

Is constructed of best material, and in the highest style of workmanship.

Will last a lifetime

Delivered well packed complete, with Spooling Machine, &c.

INSTRUCTION FREE.

PRICES.

From £13 13s. upwards.

Liberal discounts to Merchants and the Trade
Any size or gauge of machine built to order on special terms and arrangements.

For further particulars apply to

BIERNATZKI & Co.,

General Agents for Europe.

LONDON—10, Bull and Mouth Street, St. Martin's-le-Grand.



LISTER & CO., MANNINGHAM MILLS, BRADFORD,

MANUFACTURERS OF

MACHINE SILKS AND TWISTS,
BUTTON-HOLE SILK TWISTS,
KNITTING AND EMBROIDERY SILKS, FILOSELLE, &c.

Recommended for Strength, Evenness and Pure Dye. Length indicated on each Label guaranteed.

ONE TRIAL WILL PROVE THEIR SUPERIORITY.

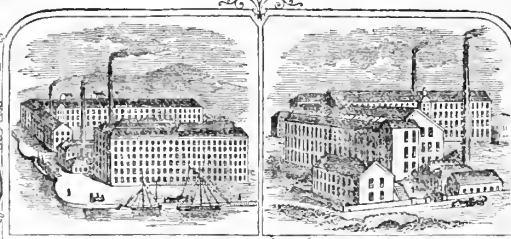
L. & Co.'s Knitting Saks Wash as Well as any produced.

Sold by all Drapers, Haberdashers, Berlin Wool Houses, Sewing Machine Agents, &c.
Wholesale Depot: London, 2, FALCON SQUARE, E.C. - Manchester: 26, YORK STREET.

MACHINE COTTON.
SIX-CORD SOFT COTTON.
CROCHET COTTON.
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CARLILE & CO.
TRADE MARK
ESTABLISHED 1752.



MARKING COTTON.
PATENT GLACE COTTON.
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SEWING COTTON MANUFACTURERS,
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CARLILE & CO.'S
SIX-CORD SOFT AND EXTRA QUALITY GLACE.

BEING OF VERY SUPERIOR QUALITY, ARE SPECIALLY ADAPTED

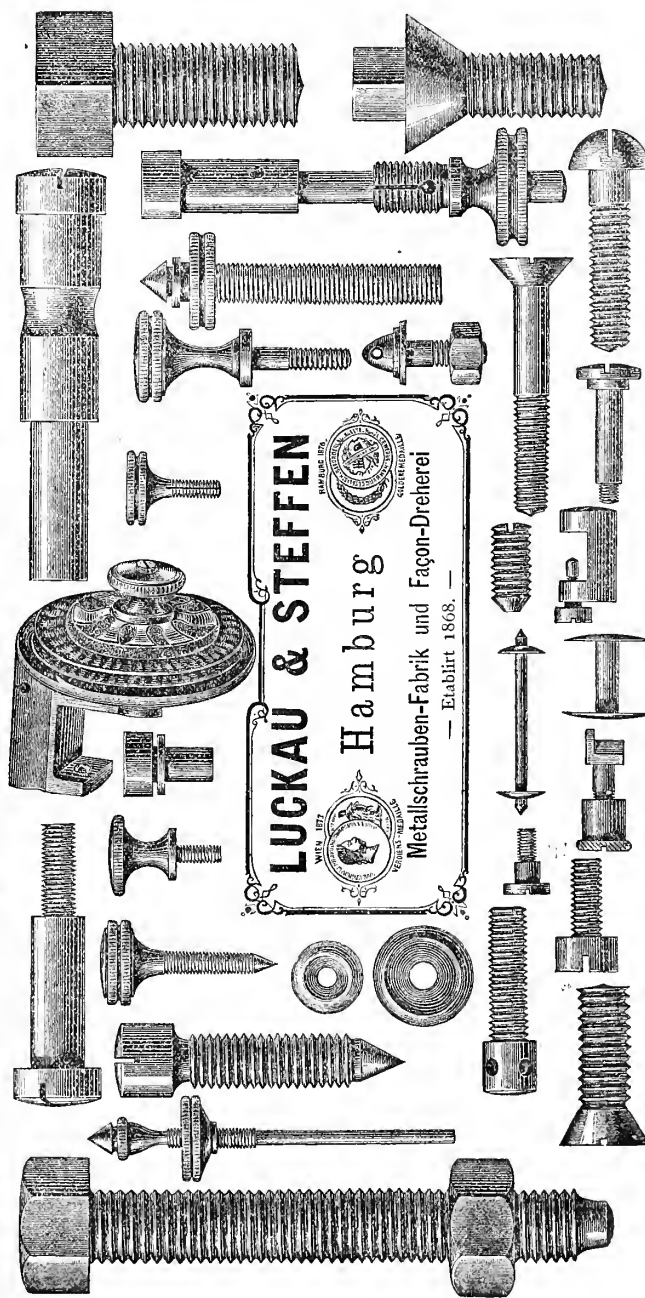
FOR MACHINE SEWING.

C. and Co. beg to direct attention to their
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PRIZE MEDALS, VIENNA, 1873; HAMBURG, 1876.

Manufacturers of Metal Screws, &c.
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BEISSER & FLIEGE, CHEMNITZ, SAXONY,

Make, as a Special Article,

OIL CANS, with sharp turns for Sewing Machines, of zinc, of white iron plate, of brass, and with nickel in 30 different sorts. Also Oil Cans with squirting valve; and Oil Cans for pouring, for mechanical workshops, in the most various shapes and sizes. Screw Drivers with winged stock.

On request, Price Lists in the German, French, and English languages are sent free and gratis. The Manufactory is the largest and acknowledged as the best in Germany.

THE LARGEST

THE LARGEST SEWING

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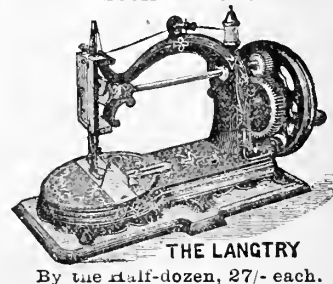
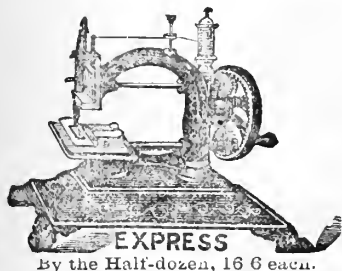
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Machine "Belt"
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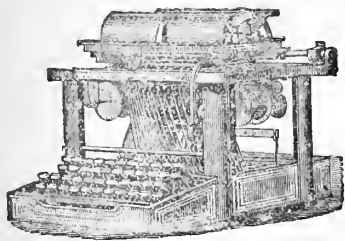
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G. E. WRIGHT'S PATENT SEWING MACHINE.
LOOP-STITCH. LOCK-STITCH.



G. E. WRIGHT, 1, NEW BROAD ST., LONDON, E.C.

THE REMINGTON TYPE WRITER DEPOT:—
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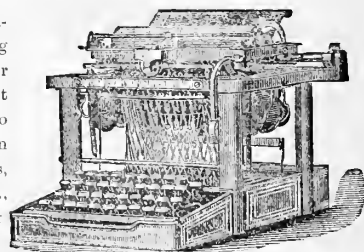
No. 4, PERFECTED TYPE-WRITER

It is portable, durable, and finished in the style of No. 2; the working parts are exposed to view.

A Machine to supersede the pen for manuscript writing, correspondence, &c., having twice the speed of the pen, is always ready for use, simple in construction, not liable to get out of order, easily understood, and any one who can spell can write with it. It is used in Government offices, by Merchants, Bankers, lawyers, Clergymen, Doctors, Scientists, &c., &c. Its advantages are great and numerous, and no one ought to be without one.

REDUCED PRICES.

PROVINCIAL AGENTS WANTED.

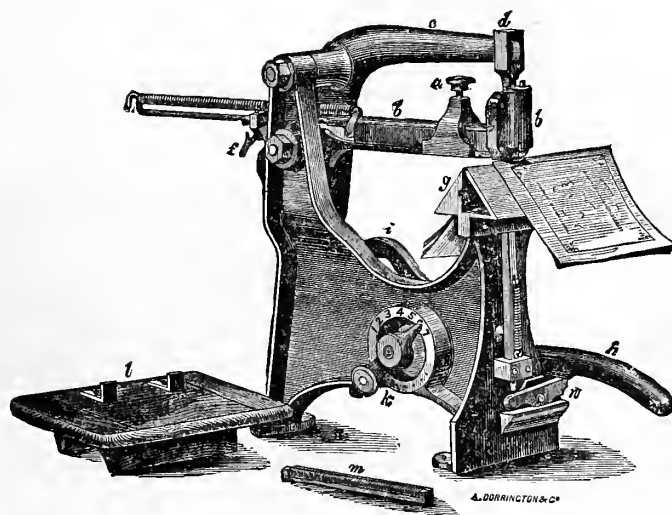


No. 2, PERFECTED TYPE-WRITER.

This machine prints Upper and Lower Case (capital and small) type portable.

BEEHAN & ROBERTS, Sole Agents for the United Kingdom.

SUPPLEMENT TO THE
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WIRE SEWING MACHINE.

IMPORTED BY

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EPHRAIM BROTHERS,

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Manufacturers of

**Sewing Machine Attachments, Fittings,
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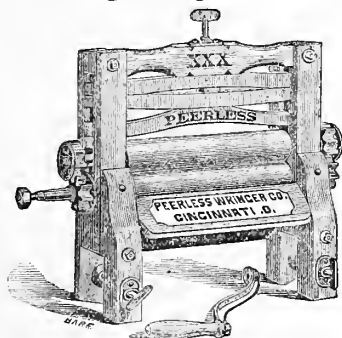
Shuttles & Reels (about 100 species)	Hooks
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For the Systems of Wheeler & Wilson, Singer, Howe
Gro. & Bak., No. 9, 23 and 24, &c., &c.**CHEAPEST PRICES!**

Illustrated Price Lists on application.

**THE "PEERLESS"
CLOTHES WRINGER**

Is the leading Wringer of America.

AWARDED
THE FIRST PRIZE
Wherever it has competed.Shippers, Merchants, and the Trade
PLACED ON THE
MOST FAVOURABLE TERMS.The best, the cheapest, the most substantial and
simple wooden frame Clothes Wringer made.Enquiries and Orders to be addressed to the Sole European
Representatives,**JOHN R. WHITLEY & CO.,**
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AND

8, PLACE VENDOME, PARIS.**AGENTS WANTED.****OILS.****IMPERIAL SEWING MACHINE,**

In 1 to 6 oz. Bottles.

CRYSTAL SPERM SEWING MACHINE,

In 1 to 2 oz. Bottles.

BICYCLE LUBRICATING,

In bulk or bottle to order.

"SOLAR" BICYCLE LAMP OIL,

In 4 and 10 oz. Bottles.

MACHINERY OILS,

As consigned to us by the drum or barrel.

**SEWING MACHINE TRADE SUP-
PLIES—****OIL CANS, SCREW-DRIVERS, NEEDLES,
RUBBERS, BELTS, FITTINGS and PARTS.****DOMESTIC MACHINERY—**

In all its branches.

SOLE AGENTS for the **HAMILTON MANUFAC-
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WASHER"** and **DOMINION WRINGER.****IMPORTERS** of **AMERICAN KNITTING
MACHINES, NOVELTIES, and HARDWARE****SOLE AGENTS** for the **BICKFORD KNITTING
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Eclipse Works, SHEFFIELD.

CUTLERY.**SKATES.****TOOLS.**Sole Manufacturers of **ORTH'S Improved****REGISTERED PEELER.**The handiest and cheapest in the market. Retail at 6d., and nickel
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Merchants and Shippers.

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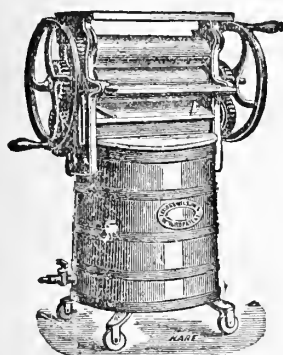
PRIZE
MEDAL



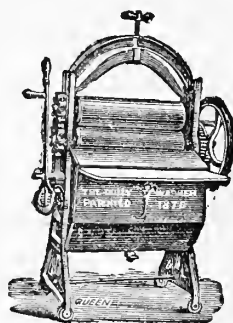
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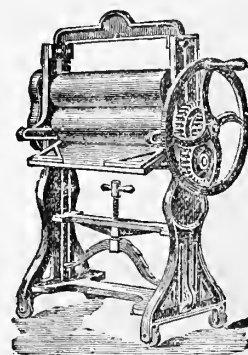
"HOME" WASHER	- . .	FIRST PRIZE
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Price, £6 : 6 : 0.



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Awarded upwards of 150 Gold and Silver Medals and First Prizes.

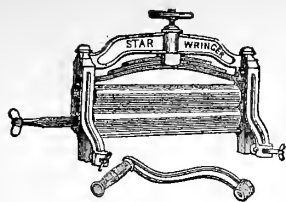
THE ANNUAL SALES EXCEED THOSE OF ANY OTHER WASHING MACHINE.

Our Goods are all guaranteed to be made from the best materials, thoroughly seasoned, and are all fitted with our well-known patents and appliances, which cannot be supplied by any other maker.

Illustrated Catalogue free on application to

TAYLOR & WILSON,

Atlas Works, Clayton-le-Moors, Accrington.



STAR WRINGER.

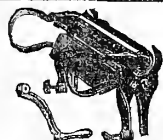
This Wringer is of an entirely new and neat design, has a novel attachment whereby the Wringer can be fixed most firmly in a few moments to Washing Machines, or any Wash Tub, either round or square

Prices.—12-in. 18s. 6d.; 14-in. 20s. 6d.; 15-in. 22s. 6d.

Trade Terms on application.

BEVERIDGE & ROBERTSON,

Manufacturers of Mangles, Washing Machines, Wringers, &c.,
KIRKCALDY, N.B.

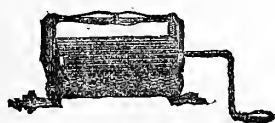


THE 'IMPERIAL' CLOTHES-WRINGER

—LATEST NOVELTY.—With strong, galvanized iron frame, steel springs, and best quality india-rubber rollers.

The Imperial Clothes-Wringer fixes itself to the tub, the springs are self-adjusting, and all pressure is automatically relieved from the rollers when not in use, therefore careless servants cannot spoil the rollers by leaving the pressure on.

PRICES.—10-inch Rollers, 25/-; 12-inch Rollers, 30/-



THE "DIAMOND" WASHING MACHINE

—LATEST NOVELTY.—With galvanized iron frame and plugs.

The Diamond Washer is superior in washing power to all other Washing Machines of the kind. The lower roller is covered with diamond-faced india-rubber, which greatly increases the efficiency of the Machine and prevents buttons being broken.

There is no framework beneath the rollers, and therefore strings and small articles cannot catch and become entangled, as in some similar Machines.

Kenworthy's Patent Canadian Washer, 3s. 6d. each, wonderfully effective and easy to work
SPECIALLY LIBERAL DISCOUNTS, recently revised and reduced, to the TRADE.

Sole Importer and Wholesale Agent for United Kingdom.

HARPER TWELVETREES, Laundry Machinist, 80, Finsbury Pavement, London, E.C.
WORKS—BURDETT ROAD, BOW, E.

MOORE, MURTON & WALTON,

Manufacturers of the

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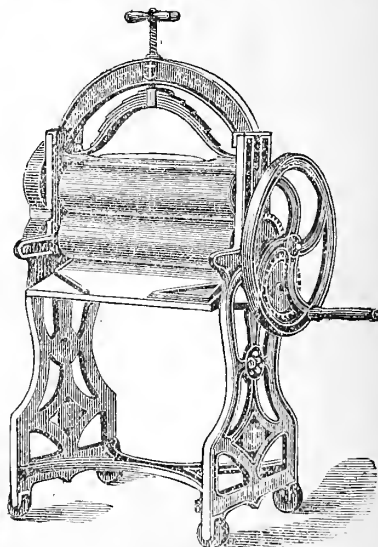
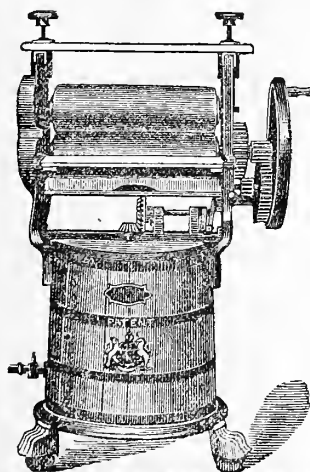
WASHERS,

And every description of

Wringing & Mangling Machines.

Price List and Illustrated Catalogue
free on application.

TRADE ONLY SUPPLIED.



BRITANNIA IRON WORKS, KEIGHLEY

American Agents—FOWLER & CO., Eagle Brass Works, Louisville, Ky.

THE "WANZER"



LOCK-STITCH, HAND OR FOOT, SEWING MACHINES.

First Prize Medals, Honours & Awards, wherever Exhibited.

THE NEW "LITTLE WANZER."—Entirely reconstructed and improved. Nickel-plated, Loose Wheel, New Patent Shuttle, Take-up Lever and Spooler. £4 4s.

WANZER "A." Simplicity Itself.—The most powerful yet light running Hand Machine, straight race. £4 4s.

WANZER "C" Light Foot Family Machine, entirely New, with every improvement up to 1879. £6 0s.

WANZER "F" Family Machine, with Reversible Feed and Stitch Lever. £7 10s.

WANZER "E" Wheel Feed Machine, for heavy work of all kinds £8 8s.

WANZER PLAITING, KILTING AND BASTING MACHINES.

Over 200 varieties of perfect Plaiting or Kilting, from 30s. complete. *The only Machine Kilting and Basting at one operation.*

WANZER "A"

IS THE

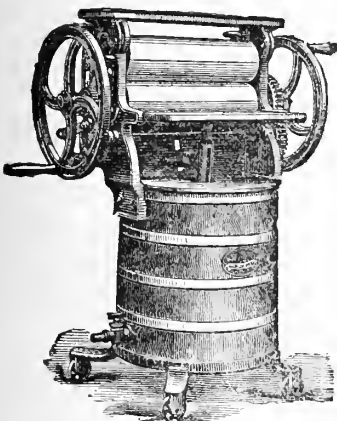
Great Mechanical Success of the Age.

It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

The Wanzer Sewing Machine Company,
LIMITED,

**Chief Office—4, GREAT PORTLAND ST.,
OXFORD CIRCUS, LONDON, W.**

NEW HIGH-CLASS WASHING MACHINE.



The "PARAGON" Washer, Wringer and Mangle (KENWORTHY'S Patent) is a compact powerful and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize Silver Medal, General Competition, and also an extra First Prize, Silver Medal for Improvements; Worsley Agricultural Show, the Society's Medal; Altrincham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society Medal; also gained Prizes and Honours at the Northumberland, Halifax, Tormorden, and Preston Agricultural Shows.

Shoving PLUNGER, which works up and down in tub about 60 times per minute, atmospherically forcing the hot water and soap through the clothes, thus not only loosening the dirt but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate articles.

Mr. JORDAN EVANS, 92, Cawder Street, Prince's Road, Liverpool, says:—"I beg to inform you that the 'PARAGON' Washing, Wringing, and Mangling Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in less than two hours."

Patentees and Sole Manufacturers of the Celebrated and World-Renowned **PATENT "CANADIAN WASHER,"** which is the most Simple, most Effective, and the most Economical Washer ever offered to the Public. This is on the same principle as the "Paragon Washer" Plunger, but is made to use by hand in any ordinary maiden tub, washtub, or bowl. Over 30,000 have been sold in a short time.

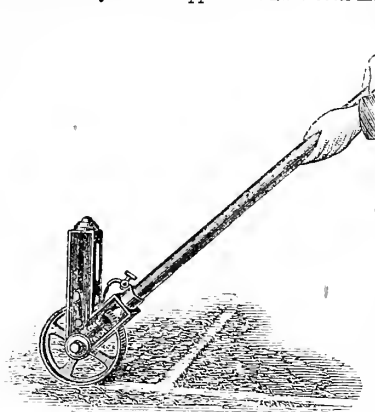
AGENTS WANTED in Districts not yet Represented.

E. N. KENWORTHY & CO., WASHING MACHINISTS, **OLDHAM, LANCASHIRE.**
ALPHA WORKS.

London Agent, Mr. **HARPER TWELVETREES,** Finsbury Pavement, . C.

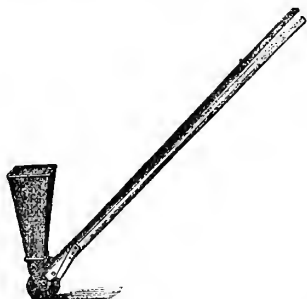
LAWN TENNIS COURT MARKERS.

Those who have marked out their courts with tape a made up of well know what are the inconveniences attending its regulation, always catching ones feet in the former and it is although the agreeable. Recently various appliances have been marketed amongst



ing to these first place, it in facie also the enforcers only for the for the bill. take up his ment at the e acceptor no ad his bill and g, because as being looked but notice of us precedent at which his address given hen presenta- ness, or, if he

at his banker's ing courts, and among the manufacturers of these ar. no banking Wrinch and Son, of Ipswich, take a prominent po uncommon for make the "Ipswich" and the new "Acme." The for though he may will mark with sawdust or sand, and the lines made by amended, and



do not require often renewing. The new "Acme" h ive any such ed to receive ence of a total in which the and refused to ad left it until are, although y funds to the of retiring the ucky, for the out fulfilling w days later, ving payment which he had

THE ROYAL ST. JOHN SEWING MACHINE.

This machine is claimed to be the perfection of m back from the in this line, making a radical departure from the syg not only a and cogs by which some of the existing machines ting back upon motion, and the system of loose and yielding joints, bill, and is remainder. A system entirely from all cams, cogs, c the position is adopted, converting the rotary motion of the main ag his accept- easy, oscillating motion by means of a plain diagonal stranger, and conveying the same to the shuttle and feed without the do, returned of a single loose or yielding joint. In addition to thd appear, so stead of the universally used heartcam on the needle lthe acceptor, crosshead, giving a a plain reciprocating motion to prevent costs avoiding the annoying vibration and large increase This was a ceptible in other machines at any increase of spe, hundred no peculiarities of construction are said to secure positivd have been desiderata sought by all sewing machine makers, bu, and by some secured; viz: lightness and ease of running—having per purpose, motions, and being free from the joints found in othe cannot say, and in addition possessing an unequalled treadle motome forward, to stand pre-eminent as a light and easy running machlaim? There ness.—This is also secured by the reciprocating motd presumably

given value for it, claiming his bond. Clearly the acceptor was un- defended, and his only safe course would be to take up his bill, and then see afterwards if he had any other remedy by which he could get the sum he first paid back again. If the acceptor were foolish enough to defend an action at the suit of the holder, he would find himself "without a leg to stand on," as the saying is, and would be burdened with the costs as an extra punishment for his original mistake.

As this case illustrates so many points in the position of an acceptor, we may as well go through all the details of the case to see if there could be any loophole of defence. A holder who takes a bill after maturity takes it, as it is said, "with all the equities." If, therefore, in this case the holder had had the bill transferred to him when it was overdue, there would be some defence open to the acceptor, on the ground that he had paid the drawer. Then there is, of course, the wide subject of consideration; for if the holder's title be impeached he must prove that he gave value for the bill which he could probably do successfully. With regard to the acceptor's rights as against the drawer, to whom he had sent the money for the purpose of retiring the bill, there are many things to be said. Certainly he would have an action to recover that money back again; but this when the debtor is in liquidation would be of little avail. There is, however, a statute under which a person who converts to his own use money entrusted to him to employ for a specific purpose which is set forth in writing, is guilty of a criminal act, for which he may be punished. It would be as well if this statute were more often used, as it is only by means of the criminal law that certain kinds of fraud can ever be suppressed. But in a case of this kind the facts are of importance, and no advice could be given until all details had been well considered. In the case to which we have referred it was curious that the bill should afterwards be held by a branch of the London Bank, which had refused to pay over the money. But this could not affect the acceptor's legal liability in any way; nor could notice in London be construed as to notice to the country branch, or banking business would become impossible. In short, those who accept bills and make them payable at strange bankers' should not rely upon their acquiescence, and should at least take care to remit the money through their own or some friends bankers, when probably it would be received. *Warehouseman and Draper.*

HOW TO OBTAIN CREDIT.

A Commission merchant, the other day, calling his son into his private office, said, "my dear boy, I have just executed the deeds by which I retire from business to-day and leave you sole active partner in the wealthiest house on the coast. Naturally you expect me to give you some timely counsel for your future business guidance."

"Keereet!" replied young D., who was a member of the Bohemian Club, and knew it all.

"You probably suppose that I wish to enjoin upon you frugality, temperance, integrity and punctuality as the sure means of success. Not at all. Those virtues are all very well for the copybook, but the only real requisite to success in life—especially in this State—is a really good reciprocating dummy enemy."

"A what?" queried the scion of the house of D., as he put his feet on the desk and lit another cigarette.

"Why, a first class, bitter, unrelenting dummy enemy. Something like my dear old friend Guff for instance."

"Why, I thought you were down on that man the worst way?"

"That's just the point—that's the joke of it," said old D. with a chuckle. "Fourteen years ago I met Guffey on the steamer coming round here from New York. We had both failed in trade I in Boston, he in Philadelphia; both of us fairly driven out of business by the usual slanders, jealousies, and underhand defamation peculiar to—well, to everywhere."

"Why didn't you go into partnership?" asked the junior.

"I'll tell you. After talking the matter over, Guffey and I agreed that the only way for a man with small capital to get alone

was to have some trusted friend on the outside who would keep him posted as to the doings of his enemies—some one whom they would talk to, don't you understand?"

"I catch on," remarked the youth.

"So we concluded to act as each other's dummy enemy. And from the day that we stepped off the steamer down at the wharf Guffey and I have never spoken to each other, except on the 1st and 15th of each month, when I visit him in disguise to compare notes."

"Well by Jove!"

"It's a fact though. Every time my enemies—and everybody has them; they sorter grow, somehow—put up a job on me, or lie about me, or try to injure me in any way, they go to Guffey and attempt to rope him into the plot. He sympathises with them; say's I'm the most infernal old wretch unhung, and then sits down and writes me the particulars. Good scheme that, eh?" and the old merchant laughed until he was black in the face.

"Well, I should smi e," grinned the other.

"Of course I do the same for Guffey. Why, I can't tell how many thousand times I've scowled at him on the street and remarked to whoever I was walking with: "There's the miserable scoundrel, Guffey. Look at the airs he puts on because he is rich. I'd like to break his rascally head with a club."

"Was Guffey rich then?"

"Why, no; of course not, at first. It was a part of our scheme, don't you see, to brace up each other's credit under the cover of abuse. For instance, I'd apply for a big discount at some bank, and the cashier would slip round to Guffey for information, knowing he'd give away all my weak points. Guffey would scowl and say, 'Well, I suppose the old villain is solid enough, but d—n a man who'd turn his mother-in-law out of doors on a cold winter night. The old beast! I wonder they haven't tarred and feathered Diffenderfer years ago. They say his grandmother is in a poorhouse. With all his money, too; just think!'"

"And does that help you?"

"Why, certainly. A bank cashier doesn't care for grandmothers. What he is after is stingy old capitalists and other Muldoons. Why Guffey once borrowed 50,000 dollars because I privately told McLane that G had swindled the Government on a half million contract. Mac had him up to dinner the very next day. Think over what I have said, my dear boy, and go thou and do likewise."

And promising to look carefully around up at the club, which was cram full of dummies of all kinds, young Diffenderfer dived into his ulster, and hastened to get up on Kearney-street before the matinees let out.

ABSTRACT OF SPECIFICATIONS.

—:o:—

5166. Sewing Machines: H. J. Haddan, London. (D. Porter and T. H. White, Cleveland, U.S.A.) 4d. 2 Figs.—Consists in a mechanical movement which converts the rotary motion of the main horizontal driving shaft into a vibration motion for operating the shuttle bar, and by the interposition of other mechanism at the same time communicates rotary motion to the feed shaft. November 26, 1881.

2722. Wax-thread sewing machines. W. R. Lake, a communication from G. W. Copeland, of Boston, Massachusetts, United States. 10d.—This invention is applied to a machine for sewing the out-sole of a boot or shoe to the upper and in-sole by a line of stitches passing from the exterior of the out-sole, or from a channel therein, through the upper and in-sole making a chain stitch. The invention comprises a revolving horn, upon which the work is supported during the sewing, stitch-forming devices or mechanism, a needle-feed (so termed), a presser-foot connecting mechanism whereby the presser-foot and needle-bar govern the position of the cast-off, and improved mechanism for operating the whirl. The invention also comprises various details in construction, and an

improvement in the method or manner of sewing; it also comprises movements whereby the length of stroke of the needle-bar is determined by the position of the presser-foot, and movements whereby the cast-off bar is adjusted automatically by the needle-bar and presser-foot. June 21, 1881.

3176. Improvements to the Keats' sole sewing machines: W. R. Lake, a communication from J. B. Anthony, of Providence, Rhode Island, United States. 6d.—In this patent it is claimed. First the combination of a drum or wheel, around which the main thread passes and which in the formation of a stitch by the machine, is first free to revolve to allow the thread to be given off and afterwards locked to prevent its rotation, a vibrating arm, mounted on the axle of the drum, or equivalent device carrying a roller or guide for the thread, and a lever or equivalent means for causing the arm to be vibrated rearward over the periphery of the drum or wheel, while the latter is locked to prevent its rotation, whereby the under thread is pulled backward to fully complete the stitch in the work. Second: The combination of the drum around which the main thread passes, a spring locking, and the lever the upward and downward movements of which control the locking device so that at determined times the drum will be free to revolve to give off the thread and afterwards be locked while the thread is being drawn backward to complete the stitch. Third: The combination of the drum, the pressure-roller-clamp, and the vibrating arm, carrying a guide-roller for the thread, whereby the thread when the drum is locked to prevent its rotation will by frictional contact with the surface of the drum be prevented from slipping thereon. Fourth: The combination with the vibration arm, and the thread guide roller, of the slotted guide eye concentric with the roller. Fifth: The combination of the lever, the vibrating arm, carrying a thread guide roller, and suitable adjusting devices for regulating the extent of movement of the lever, and consequently the extent of vibration of the arm; whereby the position of the lock of the main and shuttle threads in the goods may be determined. September 7, 1881.

3763. Driving Velocipedes: J. K. Starley, Coventry. 2d.—Contains slow and high speed gearing. August 30, 1881.

5764. Velocipedes: J. K. Starley, Coventry. 2d.—Comprises a new chain wheel, a shifting seat, and differential gear. August 30, 1881.

4032. Sewing Machines: C. A. Snow, Washington. F. G. Altman and F. Pommer, Edina, Missouri, U.S.A. 6d. 7 Figs.—The invention relates to a conical thread guide to aid in threading the needle. September 19, 1881.

8723. Knitting Machines: F. Caldwell, Loughborough. 1s. 6d. 17 Figs.—"Relates to the manufacture of knitted fabrics made on circular machines producing ribbed or plain-looped fabrics, especially applicable to goods made in the piece and afterwards cut into short lengths, each length requiring to have a fast edge or welt at one end. This is effected by employing several modifications of apparatus. In one modification to a circular machine employed in producing all numbers of ribbed fabrics but a one and one rib, there are used inclines to each feeder on the heading; the inclines are moved horizontally or at right angles to the needle bits in the machine heads, and vertically or parallel to the needle bits in the frame head. The machine inclines and frame inclines are operated by rocking levers actuated by a studded chain, so as to place the needle bits in position to receive the required number of loops before casting off the previous loops, or the inclines may be operated by the fingers of the attendant when required. The above apparatus is equally applicable to circular machines employing latch needles which deliver the fabrics upwards or downwards." Three other modifications are described August 26, 1881.

3787. Velocipedes: H. Wilkinson, London. 2d.—Both fast and slow gear is provided. August 31, 1881.

5716. Pitch Chains for the Transmission of Motive Power: J. I. Warman, Coventry. 6d. 21 Figs.—The main feature of the chain is that no strain is thrown on the pins that connect the links. In the case of a two and one chain, the single link has two bosses cast at each end, and the double links have also bosses that are bored

out to fit over the bosses on the single link. Several modifications are described and also suitable chain wheels. August 25, 1881.

3709. Propelling velocipedes: E. A. Smythe, London. 2d.—Instead of cranks a rack, pinion, and ratchet are employed. August 30, 1881.

3687. Sewing Machines for Stitching Sacks, Bags, Ship's Sails, &c.: W. Webster, San Francisco, U.S.A. 6d. 13 Figs.—Is for improvements on Patent 3725 of 1880, in which the material was fed by a serrated chain and the needle carriage by a screw. According to this invention both motions are effected by a wormwheel and a worm of varying pitch. The circular wheel is now rotated by teeth formed on it which engage with two pinions so arranged that one at least of them is always in gear with the needle. August 20 1881.

3805. Velocipedes: J. Humpage, Bristol. 2d.—Relates first to an improvement in the construction of the wheels, and, secondly, to the method of steering. (Void, patentee having neglected to file a specification.) September 1, 1881.

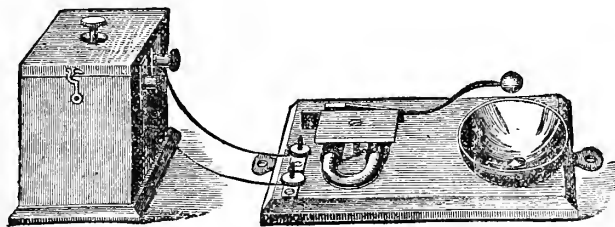
3977. Sewing Machines: A. J. Boulton, London. J. Jarlan, Toulouse. 2d.—Refers to machines having an underneath feed motion and consists of forms of or attachments to the "presser feet," the object being to dispense with the preliminary basting of the cords or beads. September 15, 1881.

3999. Hemstitching and other Sewing Machines: J. Sefton, Belfast. 6d. 6 Figs.—Relates (1) to mounting a curved feed lever on a universal joint at the end of the machine, provided with a suitable regulating screw and spring near the centre to act upon the face of a rotating cam: (2) to mounting an on-and-off-hem lever in suitable guides and working it by a cam wheel direct to the head for shifting the needle on and off the hem. August 25, 1881.

THE ELECTRIC CALL AND SIGNAL.

This article which is complete in case, retails at 10s. 6d., is sold wholesale by Mr. Burley, Tower Chambers, London Wall. It is a cheap and serviceable electric bell, which, besides its low price, has over the ordinary electric bell the advantages of requiring no scientific skill or knowledge to fix it, and when the zinc and fluid of the battery are worn out, no optician is required to recharge.

The using distributor, many bells can be worked in different parts of the building. This distributor will be found most useful in offices and manufactories, and wherever one man has to be in



constant communication with a great many people, it will save time and trouble. A conventional number of ringings may be agreed upon with the different people working in one room. Wherever gas piping is accessible, it should be used, as in this case the cost for fixing will be considerably reduced, and the use of uncovered wire being then possible.

The arrangement of the battery is such that it cannot get out of order, and will work for years without having to disconnect the wires. The battery being so small, it is not intended to ring at very long distances, say much over 500 yards of wire; but it will be found quite sufficient for general business and household purposes.

DON'T LIKE THE STYLE.

A few days since a gentleman who has more corns and bunions to the square foot on his feet than he desires (though he cares for and protects them, and is very tender with them, and they are very tender with him), entered a shoe shop and said to his boot-maker, laconically:

"That was a good pair of boots you made me the last time. Make me another pair like them. Call for them Thursday at 4 o'clock. Have 'em done. Good morning."

Yesterday afternoon he came in punctually at the hour, and pulling out a healthy-looking pocket-book, ejaculated:

"Give me my boots! How much?"

"Fourteen dollars, sir," replied the smiling shop-keeper as he skipped around behind the counter and placed in front of his customer a pair of toothpick-toed boots, with narrow soles and patent heels.

Without touching them the customer looked at the fashionable instruments of torture for a moment, and then, with a grimace as if the sight had set every corn a twinging, blurted out the inquiry:

"Whose are those?"

"Yours, sir," replied the man of lasts, with just a slight uncertainty in his tones. "Made out of the very best stock I have in the store, and in the latest fashion."

"Latest fashion!" exploded old Gouty, getting red in the face, "altogether too late! Fools all dead except stupid shoemakers! Now you just take those things, put them back in the show-case, and if there ever comes in an idiot who has the front part of his feet hewed off on both sides until they look like flat-irons, you have my entire consent to sell him that pair of leather gondolas for what ever the confounded fool will give for them."

WHITEHILL'S VARIABLE SPEED MOTOR.

The Whitehill Variable Speed Motor has become very popular with manufacturers who make use of steam as a motive power. By its use all classes of sewing machines can be run from the same shaft, and regulated in a moment to run at whatever speed is best adapted for the work in hand. Machines can be run in either direction without crossing the belt. A large number of factories, where sewing machines are used, throughout the country have it in continual use, and speak in terms of the highest approbation of its proficiency. The main office is at Milwaukee, Wisconsin. The Wilcox and Gibbs Sewing Machine Company have a specimen motor on view at their London Depot.

THE COMEY SOLE SEWING MACHINE.

Some weeks ago mention was made in these columns of the new sole sewing machines for boot and shoe shops invented by Mr. Willard Comey, a former resident of this town. These machines do work of the style and quality of hand-made goods, and a company has been formed for the management of the machines which are not sold outright, but leased on a royalty. Mr. Comey is general agent for the company, with office at 124, Pearl-street, Boston. A number of machines have been made this winter, and they are now being introduced. One was shipped to Japan the present week, and several are being put into Massachusetts factories. Letters patent covering England, France, and Germany have been secured.

VOLUNTARY SETTLEMENTS.

By a statute passed as long ago as the 13th year of the reign of Queen Elizabeth, it is provided that "every gift, grant, bargain, and conveyance of goods and chattels made with intent to delay, hinder, or defraud creditors" shall be void as against creditors, unless made for good consideration, bona fide, and to a person without notice of the fraud. Ever since this Act was passed, down to the present time, its provisions, though they do no more than declare the common law of the land, have been the subject of constant litigation, being called in aid by creditors on the one hand, and evaded by debtors upon the other. It is impossible in a short space to consider many questions that have thus arisen, and to point out the various ways by which the statute has been evaded by creditors, one great point always to be borne in mind upon this subject is that when an assignment or settlement is held to be fraudulent and void under the Act, it is so as against subsequent creditors, as well as against those who were creditors at the time of the assignment. In a recent and remarkable case this doctrine was carried to its extreme limits. There, a man, in 1858, settled £1,000 on himself for life, or until bankruptcy, and after his decease for his wife for life, and then for the children of the marriage. He was not at that time even a trader. But in 1875 he fell into difficulties, and became a bankrupt; and the Court held that notwithstanding the lapse of so long a time the settlement was void under the statute of Elizabeth, as being a fraud against creditors. This is evidently a very strong authority in favor of the rule that time is no bar to fraud, and that subsequent creditors are considered by the law as much as those existing at the time of the settlement or assignment in question.

A case decided the other day by the Court of Appeal is worth nothing because it throws much light upon the way in which these settlements are worked and the risks run by those who are in any way concerned in the operation. In *ex parte Russell re Putterworth*, the debtor, a trader, had some three years ago made a voluntary settlement of the bulk of his property for the benefit of his wife and children. It should be mentioned that an antenuptial settlement is not legally speaking "voluntary," because in the eye of the law marriage is like money, a valuable consideration, and it could not therefore be set aside as a fraud upon creditors. But all post nuptial settlements of the husband's property are in their nature voluntary and so run this risk. Coming back to our case we find the debtor lately became bankrupt; and thus the trustee chosen by his creditors was of course bound to dispute the validity of this settlement by which the bulk of his property had been tied up for safety's sake. On the other hand the trustees, under the settlement felt it to be their duty to defend the interests of those whom they represented; and so the case came on before the County Court Judge of Manchester, where the proceeding in bankruptcy had been taken. After argument he set aside the settlement on the ground that it had been executed by the debtor, with intent to defraud his creditors, and was therefore void under the statute of Elizabeth. But he allowed these trustees to take their costs of defending the settlement out of the settled property.

The trustees, however, out of their exceeding friendship for the debtor and his family, took upon themselves to appeal. They were indeed successful before the Chief Judge, who decided in their favor and supported the settlement. But, fortunately, there is still a further appeal; and upon the case going before the Lords Justices, they did what they had so often done before; they reversed the ruling of the Chief Judge and restored that of the Manchester County Court. Then arose the great crucial question of costs; and on the one hand it was urged that the trustees for the settlement had only done their duty in appealing, while on the other it was contended that they should have been content with the first decision, and that it was most unjust to make the estate and thus the creditors bear the burden of all this wasteful litigation. This latter view was adopted by the Lords Justices, who, while affirming the view taken by the County Court, and allowing the trustees their costs of that proceeding out of the property, left them to pay the cost of both appeals. This as a result may well act as a warn-

ing to those who lightly accept the post or trustee under a voluntary settlement, and having done so conceive it to be their duty to support in every way possible the interests of those whom they represent; regardless of the just claims of creditors to the settled property. The practical effect of this decision, though it seems at the moment to be a case of hardship upon those actually concerned, is likely to be satisfactory, as it will tend to discourage the making of such settlements. If a debtor, who is desirous of protecting his property against future risks, were unable to get a friendly trustee who could be relied upon to fight the case if necessary, this would obviously act as a hindrance and discouragement of the project, which most people would consider an undoubted gain to creditors and the interests of commercial morality.

This was the view taken by the Master of the Rolls who said it would be a good thing if people were slow to accept the truth of a voluntary settlement. Still there are not many trustees who would so lightly run the risk of an appeal, and certainly they can be under no obligation in this matter to those whom they represent. Besides the statute of Elizabeth there are other pitfalls in the path of those who rely upon a voluntary settlement to protect their property against the claims of creditors. By the Bankruptcy Act 1869 a voluntary settlement made by a trader is wholly void if he becomes bankrupt within two years afterwards. Even if he be adjudicated within ten years such a settlement will be held void, unless those who claim under its provisions can prove that the settler was at the time of making it able to pay all his debts without the aid of the property actually settled. By throwing the onus of proof upon those who have to support the settlement an obvious advantage is conferred upon creditors who would rarely, if ever, be able to prove affirmatively that their debtor was insolvent ten years before. There is, however, a point upon which the law seems to favor the debtor. Where for instance a man in fear of having his goods seized under a writ of execution assigns them all to another, this assignment if it be made for good consideration is not void, though it was done most assuredly for the purpose of defeating the execution creditor. Here we have a case in which there is great need for legal reform. It ought not to be possible for a man in a state of insolvency to assign all his property so that one creditor is preferred to the others. But this is a large subject, and one that we hope to see considered during the session during the debate upon the Bill to amend the law relating to Bills of Sale, *Warehouseman and Draper*.

WATER-MOTOR FOR BLOWING A CHAMBER ORGAN.—Mr. J. Stacy, of Riber House, Bedford-street, and Mr. Joseph Hill, of the George-street Engineering Works, both in Derby, have recently made a small water-motor for the purpose of blowing a chamber organ belonging to Mr. C. W. T. Wheelton, of Crompton-street, Derby. It is claimed that the speed of the motor is entirely free from all unsteadiness, and varies according to the requirements of the organist, and this is effected by a mechanical regulator. It is also economical in the consumption of water, the cost including rent of high-pressure meter, not exceeding 1½d. per hour. Water engines for large organs have been in use pretty extensively, but the adaptation of the principle to chamber organs is claimed as a novelty.

THE Worcestershire Exhibition of local industries and associations offers a wonderfully imposing programme of exhibits. Those of us who cannot boast a very intimate knowledge of industrial geography have fair reason for surprise in the scope of the manufactures of this county. It might be wise in more ways than one to expand this idea, and have a central display of English productions arranged according to locality. The idea is not a new one, it was tried in 1845 in Covent Garden Theatre, where was held a "Free Trade Bazaar," in which each manufacturing town had its own particular stall or group of stalls, so that the display had an educational as well as an intrinsic value. Almost the first attempt to arrange a systematic exhibition of national productions was a gathering of local manufacturers at Manchester in 1839, an experiment which proved so successful that it was followed on all hands.

MR. PLATT'S PUBLICATIONS.

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ECONOMY.—Pages 192, 193:—"In 'Economy' my object has been to get men to have faith in 'principles,' the right of the individual to free to make his own contract, the wisdom of taxing the prices of all articles to the Creator's laws of supply and demand, the imperative necessity of England's rigid adherence to 'Free Trade'—the basis of all economy—as by its action nations become wealthy, and by its action alone will mankind eventually become one brotherhood, each working for the other; having at last realised the great truth that the doing to others as we would be done by, is the wise policy that any individual can follow. I have endeavored to show that 'economy' of resources, obtaining the maximum of result from the minimum of means, is the essential point, the foundation-stone upon which the Divine arrangement of the Universe is based; therefore, I have argued that man's policy should be in harmony therewith, and based upon the same adherence to sound economic laws. Economy has been generally treated of; also, Political Economy; and under 'Free Trade' is pointed out how we suffered in the past, how many other nations are suffering in the present, and how we should again suffer if we returned to Reciprocity, 'Retaliation,' 'Fair Trade,' or by any deviation from the natural laws of Free Trade."

ECONOMY.—Pages 149, 150:—"Freedom of trade is essential for the world to derive the benefit of capital employed by distributors, and nature trusts to the desire of acquisition of this class to search out and find markets for the goods that each nation makes the cheapest, or makes, or has (as in the case of wheat, &c.) more than is required. This class are the men who are said by nature's law to 'buy in the cheapest and sell in the dearest markets'—a remark often sneered at, but full of wisdom—an edict of the 'Divine Economist,' who trusts to the instincts implanted in man, and who made these instincts admirably adapted for his use—latent power ready, as 'necessity' arose to be developed for his help."

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ECONOMY.—Pages 156, 157:—"Free Trade is natural. Protection is cruel and unnatural. For the peace and prosperity of the world it is necessary that the nations trade together; for the people of every nation to enjoy the best that the world in its entirety offers, it is necessary that the economic laws be followed by each in 'production and distribution.' Free Trade opens all ports, welcomes from every land what it has to spare, and gives free exchange what it has an excess of. Free Trade means 'peace and plenty' for all men, 'each part of the world fully occupied in supplying to the other parts what they are in need of, and taking in exchange what it is short of.' It makes of the world one market, free and open to receive the products of each and all,—all vying to produce what nature has enabled them to produce the most efficiently and economically, and exchanging the surplus of each with another. It is not a dream, but to me, an obedience to this 'economic law' rests the salvation of the race; the selfish, jealousy, antagonism, supplanted by plenty, mutual emulation; each trying to do his best, hoping as well he is doing, as it would be natural and satisfactory; to one and all throughout the world engaged in producing and distributing in the manner most conducive to the prosperity and happiness of all."

ECONOMY.—Pages 136, 137:—"All duties counteract

the operation of nature's arrangements to bring prices down to the lowest; they are an artificial impediment put up by selfish men to the Creator's liberal supply of good things for all men. The action of duties is to enhance prices—that is to say, to limit their use to the privileged few, whom God wanted to be bountiful to reach all of us. Stripped bare and viewed in their hideous nakedness, protection, reciprocity, retaliation, 'fair trade,' mean putting a burden upon all consumers, putting a tax upon, taking out of the pockets of the majority a something to prop up in an artificial and 'unnatural' manner an industry by the minority that, left alone, cannot sustain itself—is not worth, in fact, in the open market of the world what it has cost to produce. If this be true, it is in defiance of all economic laws, it is in defiance of what any individual can do long without becoming bankrupt. It follows, therefore, inevitably that if followed by nations it is equally unwise economically, and should be opposed with heart and soul by all patriots and statesmen."

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ECONOMY.—Pages 11, 12:—"It is of equal importance to the nation at the present time that the people really understand what 'Free Trade' means, otherwise they will be led away by the plausible appeals to impose duties under the disguise of 'Fair Trade,' 'Retaliation,' 'Reciprocity,'—all meaning Protection, under a new name—a return to the fatal policy of the past. Protection adopted in any form by us will be an act of national suicide. It would be our ruin as a commercial and manufacturing nation, and deservedly so, as we know what is right, and must suffer if we lack the moral courage to do it. There is no reason for 'England's decline,' but to maintain our position we must understand more clearly what that position is, how it was gained, and how alone it can be maintained. By the time you have read 'Economy' I hope you will see that 'Protection' injures the nation that tries to protect itself; also, that if we buy of others they must buy of us. My advice is—remove any existing restriction to 'Free Trade,' home and foreign. Encourage them to send here, as if our goods be worth buying, in proportion as we buy from others will those others be compelled to buy of us."

ECONOMY.—Pages 161, 162:—"Free trade reduces the price of all commodities to the minimum; protection enhances the price not only of the article protected, but of all other articles consumed in the protected State. Instead of getting extra strength for the battle, you create interests, the vitality of which is entirely dependent on the national bounty, and which are a perpetual drain upon the resources of the country; and all under the mistaken idea that you will not pay the foreigner for what you can produce yourselves, forgetting that all 'commerce is barter,' that you pay him for his goods by your goods, that you in reality give him what he has cost you 1s., and in exchange for which you get what would cost you 20s. to make, and he on his side gets from you for 15s. what would cost him 20s. to make. So free trade benefits both parties; and there is no surer evidence that you are obeying the Creator's laws than when the effect of your acts tends to the general benefit. Free trade is for the good of the people generally; protection is based upon the plea that the interests of certain limited classes should be consulted to the detriment of the country and the world at large, stripped bare, protection means 'that all should be injured in order that a few should be favoured.' It is a doctrine utterly false and untenable. It implies opposition to all change and denial of all progress, because the change might be injurious to a few, though the progress would be beneficial to the many. Free trade admits of no compromise; the system is bad or good, right or wrong. It is imperative, therefore, that the 'people understand it, they are much interested in it. There is nothing abstract or technical about it. Its benefits and the disadvantages of its rival, protection, have been put forth clearly by myself in these pages; so that anyone can understand it. If I have myself understood, you will see that if all the world but Great Britain repudiates free trade, the advantage is to Great Britain, the loss to the rest of the world. You will see that to 'sell such and such little' is an impossibility as one depends upon, and is equal with the other. Imports are a supply that creates compulsory demand. You must import to export. You cannot export unless you import. To 'sell much, therefore, you must, by your production, be able to 'buy much.'"

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AND

Sewing Machine Gazette.

THERE are, in this world, many young gentlemen, who in their own estimation are very sharp and knowing; but at the same time there are many elder gentlemen, who if not conscious of possessing the gifts of keen perception, and shrewd judgment, certainly have them in no mean degree. Amongst the former can be classed one Alfred Clarence, amongst the latter Mr. Commissioner Kerr. It will be seen by reference to another column, that the former sharp knowing young gentleman was kind enough to favor the Victoria Sewing Machine Company, with an order for a machine. This article was duly supplied him, and he sold it to someone else. Not being favoured with a cheque from Mr. Clarence, after repeated applications the Victoria Sewing Machine Company sought the services of Mr. Commissioner Kerr, at the City of London Court, where they sued for £3 12s. Mr. Clarence was there ready to answer

the call, not with the plea of poverty, but the statement that in the eye of the law he was an infant, being born in October, 1862. He was therefore, according to his own statement, close on twenty years, but the judge thought his age, like that of many maiden ladies, doubtful. He required proof, and the sharp knowing young gentleman submitted his certificate of birth. That was his trump card, and he played it with the air of a man, who feels he has conducted his ease cleanly, and is justly proud of his skill. Mr. Commissioner Kerr wanted the evidence of someone who was present at his birth, and as the defendant was not prepared to bring as witness any such person, the judge decided for the plaintiffs with costs.

There are few in the trade who will not approve of this decision. It is open to any, by the payment of a small fee, to obtain a certificate of anyones birth, and if such were recognised as evidence, it would open another loophole for many to evade the law. In future, when young gentlemen wish to "make infancy their plea, they must bring with them either Mrs. Sarah Gamp, Doctor Chillip, or else their Mamma. Mrs Sarah Gamp may have such love for her fellow creatures, that she is always ready for a "laying out or laying in," but her affection would not always extend to laying herself open for imprisonment for perjury.

CORRESPONDENCE.

To the Editor of the Journal of Domestic Appliance and Sewing Machine Gazette."

DEAR SIR.—Some time ago you kindly gave us Messrs. Guhl and Harbeck's address for "Express" machines, for which we thank you. We have since done business with them.

If not troubling you to much will you kindly give us Messrs. Frister and Rossmann's address, and oblige yours truly

LINDREA & COMPANY.

[Messrs. Frister and Rossmann, Berlin, will find them. The London agent is Mr H. Loog, London Wall, E.C.—EDITOR.]

To the Editor of the "Journal of Domestic Appliances and Sewing Machine Gazette."

GENTLEMEN.—Can you oblige me with a list of the different firms, who exhibited sewing machines at the late Paris Exhibition, 1878, and oblige yours truly

W. PATTERSON.

(We have no list of exhibitors, but the following are the firms who received awards.—EDITOR, J. D. A. & S. M. G.

Grand Prize.—Messrs. Wheeler and Wilson, London.

Silver Medal.—American Button Hole Co. (Rappel), London; Bradbury and Co., Oldham; Smith, Starley and Co., London; Wilson, Newton and Co., London.

Bronze Medals.—Raymond Sewing Machine Co., London; Wardwell Manufacturing Company., United States.

Honourable Mention.—William Bown, Birmingham.

IMPROVED REVOLVING SHUTTLE SEWING MACHINE

Up to very recently all the sewing machines that have been made divide themselves into very few classes, the best representatives of these classes being the Howe, with a reciprocating shuttle, forming a double thread or a lock-stitch; the Wheeler and Wilson, with a revolving hook and a spool, also forming a lock-stitch; and the Wilcox and Gibbs, with a single revolving hook, that produces a chain stitch from a single thread. The work produced by lock-stitch machines is naturally the kind that is most desired, but in the large trade of manufacturing ready-made clothing it is found that the use of these machines involves some drawbacks. A shuttle machine of any ordinary make requires more power to drive it than

is commonly imagined. This, of course, means that there must be heavy strain, and, what follows from it, wear and tear, on some parts of the mechanism. It further appears in practice, and it follows, from what we have just mentioned, that the speed at which lock-stitch machines can be driven is not so high as those making the single-stitch. In everyday work it is doubtful whether it pays to drive lock-stitch machines at a greater rate than about 600 stitches per minute. It is true they can work at a much greater rate than this at a push, but, all things considered, these greater speeds are found excessive, and result in the destruction of the machine, and, further, they involve the use of the best kinds of thread, which is a more costly item than generally supposed. In the household it may not seem to be of great importance if one machine can effectively make a few hundred stitches more than others; but this is not so on the manufacturing scale. In one town we could name there are probably 6,000 to 7,000 machines employed in the ready-made clothing trade, a single firm having perhaps as many as 400, and thus the question of the speed and durability becomes of the utmost importance. Thus, although the lock-stitch is of undoubted superiority, a large number of firms are forced by the conditions of competition and quantity of work to use the single stitch, a very favourite manufacturing machine being the Wilcox and Gibbs—one of the best of this class, being a machine that can run efficiently at about twice the rate of ordinary lock-stitch machines, and one that is popular amongst the machinists, principally because, on account of its speed and the little attention it demands, it enables them to earn more money.

There has therefore been an increasing demand for a lock-stitch sewing machine that can constantly and effectually work at the same speed as the quick running single-stitch machines. The machine we now illustrate is intended by its inventor and patentee, Mr. Warwick, sewing machine maker, of Manchester, to supply this want. After carefully examining it in operation, we believe that it is constructed upon lines that render it probable that its inventor's anticipations will be realised. Lock-stitches are made by two threads, one carried by the needle and the other in the shuttle bobbin. When the needle has pierced the cloth, and is rising again, the thread it carries is made into a loop, through which the shuttle is shot. The needle thread makes the stitch on the top, and the shuttle thread that on the bottom of the cloth. If everything works properly the two threads cross or pass round each other in the middle of the cloth; if badly sewn the needle thread or the shuttle thread, as the case may be, will simply lie in a straight line on the top or bottom face of the work. The cardinal feature about the machine under notice is that it contains what is called a revolving shuttle—that is, a shuttle that travels in a circular path—and upon this is based its capability of running at high speeds without undue strain and the destructive wear and tear that follows it. It may not appear to be of much moment whether the shuttle is shot backwards and forwards, or whether it is always travelling in a circular path and in the same direction, but in reality it is an important consideration, and we will endeavour to explain the reason. Suppose we take a small weight, say a leaden bullet, and rest it in a straight groove on a table, and with a notch at the end of a stick we move it in the groove very quickly, say 3in. forwards and 3in. backwards—that is, the bullet travels 6in. before it gets into the same position again. Suppose, also, we take the same bullet, and place it in a circular groove of 6in. circumference, and, with the stick as before, move it quickly round the circular groove. In this case also the bullet will travel 6in. to pass the same position; but although the space traversed is the same as before, it will be found much easier to keep up a greater speed. In the straight groove the weight has to be started and stopped continuously, and theoretically it will take as much force to stop as to start it. With the circular motion there are no stoppages, and after starting it very little force is required to keep up the speed. It is well known with how little exertion a weight tied at the end of a string can be kept swinging round at high velocities. These facts, which are within the observation of everybody, apply with equal force in the cases of reciprocating and revolving shuttles

The speed of the latter can be kept up with far less strain upon the working parts of the machine than the former. Circular motion, indeed, tends to keep itself up, as may be noticed in the case of a flywheel. If we have made this point clear, our readers will have no difficulty in understanding the chief merit of the machine under notice.

A NEW WATERING POT.

Messrs. LUDLOW, of Birmingham, have invented a new rose for a watering pot. It is made of two parts screwed together, when the holes become stopped with dirt or the impurities of the water—a very common occurrence as all gardeners know—the rose can be divided by unscrewing and the holes readily cleansed.

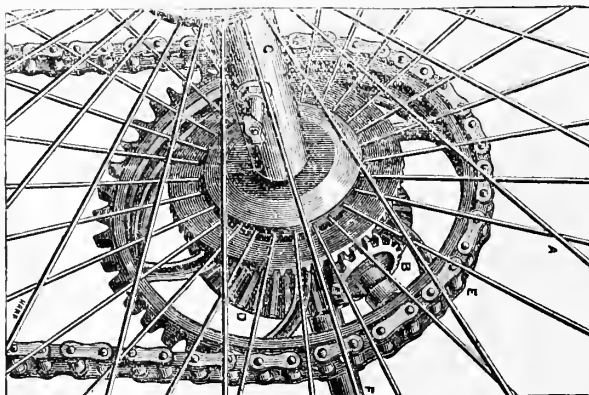


THE ROYAL SALVO TRICYCLES.

So named from their being supplied to Her Majesty the Queen, manufactured by Messrs. Stanley Bros., St. John's Works, Coventry, differs in principle from any other known construction, and only resembles others in such points of detail as those that have been copied from it.

It has in addition to the three carrying wheels a small safety wheel at back. The side wheels are 50-in. for gentlemen, and 46-in. for ladies; front wheel 14-in. The side wheels carry nearly the

whole of the weight, sufficient weight only on the front wheel to serve for steering purposes. The back wheel is carried clear of the ground, being merely used for a safety, preventing all possibility of a back fall. This machine is fitted with horizontal shafts; the lower one, which is cranked to hold the pedals, is a little in advance of the upper one, the upper one is fitted with patent transmitting balance gear, so arranged as to impart the exact amount of power required by each driving or side wheel. The connection between the pedal and upper shaft is effected by a special chain of the easiest working



and most lasting kind. The seat is mounted on an improved spring, which is suitable for ordinary seat or saddle, and can be raised or lowered to suit the height of any rider. A foot-rest is most conveniently placed, and a thoroughly efficient brake attached, and every other requisite necessary for the comfort and safety of rider has been well considered.

Our improvements for 1882 consists of ball bearings, which are

now fitted to the front wheel, new pedals, all now fitted with Hancock's patent non-slipping tyres.

A spokes of wheel, B crown wheel, C bevel tooth-wheel, fixed to the hub of one driving-wheel, D bevel wheel, fixed to shaft, E chain wheel, F main axle, G loose hub.

The above wood-cut shews the "Balance Gearing" referred to above. A plain axle runs from side to side of frame work, on which

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| <p>No. 4497. H. J. Haddan—a communication from J. Kinleyside, of Hamilton, Ontario, Canada, for improvements in wringing and mangling machines. Dated October 15, 1881.</p> <p>„ 4542. F. W. Eicke, of Beulah Hill, Surrey, Gentleman, for improvements in the construction of velocipedes. Dated October 18, 1881.</p> <p>„ 4678. S. Leoni, of St. Paul-street, New North-road, London, for improvements in apparatus for heating, cooking, and boiling water by gas. Dated October 26, 1881.</p> <p>„ 4941. W. Cunningham, of Dundee, Scotland, Engineer, for improvements in ventilating apparatus. Dated November 11, 1881.</p> <p>„ 4980. A. M. Clark—a communication from Messrs Ferry and Millet of Lunéville, France, for improvements in embroidering machines. Dated November 14, 1881.</p> <p>„ 36. W. R. Lake—a communication from the Rotary Shuttle Sewing Machine Company, of Foxboroughs Massachusetts, United States, for improvements in sewing machines. Dated January 3, 1882.</p> <p>„ 262. H. H. Lake—a communication from D. H. Campbell, of Pawtucket, Rhode Island, United States, for improvements in wax thread sewing machines. Dated January 19, 1882.</p> <p>„ 301. H. J. Haddan—a communication from J. Mathison, of Massachusetts, United States, for improvements in the method of and mechanism for sewing buttons to cloth or other material. Dated January 21, 1882.</p> <p>„ 650. H. A. Dufriené—a communication from Monsieur A. Mange, of Lonchamp, France, for improvements in velocipedes. Dated February 10, 1882.</p> | <p>No. 3,406. J. F. Walters, foot skates 6</p> <p>„ 3,407. N. Stewart, churns 6</p> <p>„ 3,408. G. Strickland, bicycle, &c. 6</p> <p>„ 3,413. J. Nickholds, lids for the filling holes of oil cans, &c... .. 6</p> <p>„ 3,432. W. R. Foster and T. J. Williams, screwing India-rubber tyres to wheels of bicycles, &c. 4</p> <p>„ 3,522. A. Paget, knitting machinery 1 4</p> <p>„ 3,547. A. Francois, sewing machines 6</p> <p>„ 3,557. J. Brinsmead, check action and beverage sound-board for pianofortes 6</p> <p>„ 3,576. M. A. Weir, velocipedes 6</p> <p>„ 3,587. A. W. Robinson, bicycles, &c. 6</p> <p>„ 3,590. C. A. Barlow, machine embroidery, &c. 6</p> <p>„ 3,595. C. Collard, pianofortes 6</p> <p>„ 3,608. J. T. Shaw, and H. D. Meredith, perambulators... 2</p> <p>„ 3,623. C. Toope, bicycles and tricycles 2</p> <p>„ 3,626. J. Mansell, wheels for perambulators and bath chairs, &c. 2</p> <p>„ 3,684. W. G. Hammou, driving gear for velocipedes ... 2</p> <p>„ 3,688. A. Watkins, sewing machines 6</p> <p>„ 3,695. J. Laezy, apparatus for basting meat 2</p> <p>„ 3,697. G. R. Goddall and J. C. C. Read, bicycle lamp ... 6</p> <p>„ 3,723. F. Caldwell, knitting machines 1 6</p> <p>„ 3,760. H. Bland, sewing machines 8</p> <p>„ 3,763. J. K. Starley, driving velocipedes 2</p> <p>„ 3,764. J. K. Starley, velocipedes 2</p> <p>„ 3,766. W. H. Cutler and J. Chapman, apparatus for preventing the waste of water 6</p> <p>„ 3,769. E. A. Smyth, propelling velocipedes 2</p> <p>„ 3,787. H. Wilkinson, velocipedes 2</p> <p>„ 3,788. J. S. Downing, ink stands, &c. 2</p> <p>„ 3,802. G. F. Rendall, stands for bottles, &c. 2</p> <p>„ 3,803. W. R. Lake, sewing machines 4</p> <p>„ 3,841. J. J. Gardner, machinery for mincing meat, &c... 6</p> |
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PATENTS WHICH HAVE BECOME VOID :—

- No. 934. G. W. Hooper, of New York, United States, for improvements in sewing machines, chiefly designed for straw-braid work. Dated March 10, 1879.
- „ 1001. H. M. Butler, of Kirkstall Forge, Leeds, for improved appliances for securing round iron shafts in the wooden rollers of washing and wringing machines. Dated March 13, 1879.
- „ 1305. D. Campbell, Clerk, and J. Walker, Blacksmith, both of Wolverhampton, for improvements in tricycles, and in the means or apparatus employed in manufacturing tires for tricycles and other velocipede wheels, and similar wheels, such improvements being in part applicable also for other purposes. Dated April 2, 1879.
- „ 1366. B. Hunt—a communication from L. Sternberger, of Philadelphia, Pennsylvania, United States, for improvements in driving mechanism for sewing and other machines. Dated April 5, 1879.
- „ 1401. A. M. Clark—a communication from A. H. Wood, of New York, United States, Musician, for improvements in the sounding boards of pianofortes. Dated April 8, 1879.
- „ 1102. H. Gardner—a communication from E. M. Wanzer, of Hamilton, Ontario, Canada, for improvements in sewing machines. Dated March 25, 1875.
- „ 1124. J. Dalton, of Pilcher Gate, Nottingham, for improvements in knitting machinery. Dated March 27, 1875.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1d. each extra.

	s.	d.
No. 3,272. J. H. Johnson, bicycles	6	
„ 3,317. W. Jeans, tricycles	6	
„ 3,371. F. Wirth, velocipedes, &c.	8	

THE BELLE OF UNION SQUARE.

Union Square, New York is, as many of our readers well know, the place in that city where sewing machine manufacturers "most do congregate." In it are located all the large American sewing machine companies, so our readers will therefore understand why the American muse has mentioned it in the following :—

The prettiest girl that ever was seen
Is Julia Oldgold Aniline Green
Who ran a side-wheel sewing machine
Near Union Square.

Her bangs were curled with bandoline,
Her cheeks were smoothed with vaseline,
Her teeth were brushed with fine denture
Her face was brushed with coaline,
To keep it fair.

Her gloves were cleaned with gasoline,
She wore a dress of grenadine,
Looped over a skirt of brilliantine;
Her petticoat was bombazine,
Her feet was shod with kid hootine—
A pretty pair.

She sailed away from Muscatine
In a ship they called a brigantine;
She flirted with a gay marine
Till they reached the republic Argentine,
Where they were married by the dean,
And live on olcomargaine.
They've settled there,
And ordered a side-wheel sewing machine
From Union Square.

THE PERSEVERING CANVASSER.

(At the door.)

"I am agent for the celebrated sewing machine house of—, and take the liberty of offering you our famous machines."

(No answer.)

"If you will allow me I will show you some of our elegant and well-built machines, and hope you will take advantage of the opportunity to buy one."

"I don't want one."

"But, madam, if you knew how excellent our machines are, compared to those of our competitors, and with what ease——"

"I don't want one, sir."

"Allow me to finish, madam. If you knew what an advantage it is to have such a machine——"

"I must go down to the kitchen."

"Just one word, madam."

"Impossible, sir; good day."

And there I was, left before the door; but my pride was wounded, and I resolved to dare anything to compel that woman to make a purchase.

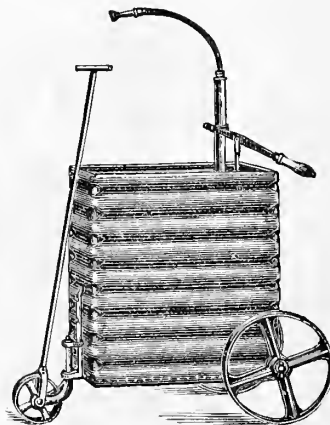
Making a thousand apologies, I had the impoliteness to follow her into the kitchen, where she was busy at her cooking stove. The kitchen was roomy and looked upon a yard. Close to the door by which I had entered there was a chair, upon which I sat down under pretext of being tired. This gave the lady much offence; for scarcely was I seated when she cried out, "Insolent fellow, be off, directly."

Instead of obeying, I made the politest excuses, which only increased her anger. She opened the door of the yard, and set a big dog on me, who sprang at me, barking horribly. My position was critical, but I would not go away; and suddenly I thought of a stratagem. I rose and allowed myself to be thrown down by the dog, and remained motionless on the floor. The rage of the woman and the dog was immediately appeased and gave way to uneasiness. The dog smelt of me, and the good lady, after having well examined me, went to get some vinegar and water to bring me back to consciousness. Who knows how long this might have gone on if she had not accidentally let a drop of vinegar fall into my eye, which soon brought me to my senses? I no sooner recovered speech than I displayed great indignation at the manner in which I had been treated, and did not forget to speak of damages, justice, &c. In less than a quarter of an hour the lady was very glad to pacify me by the purchase of a machine, and I found that this success was not so very dearly paid for by a few scratches on the face and a tear in my trousers.

BERRIDGE'S WINDSOR GARDEN ENGINE.

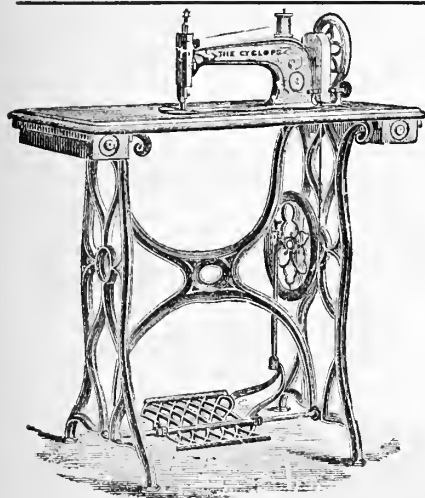
This Garden and Domestic Fire Engine is fitted with a brass pump, and throws a continuous stream 30 feet. The peculiar formation of the body being corrugated, prevents splashing and gives great strength.

No. 1 is only 23 inches wide over all, across the wheels, and No. 2 is 27 inches, so that either will go easily through even a small door-way, a great advantage for use in case of fire in a house.



The handle of the pump is 30 inches off the ground, a convenient height for pumping. The wrought iron fittings are strong and well made; the body is galvanized all over after made, and painted outside. It is open at the top for dipping out with water cans, &c. The manufacturers are Messrs. Berridge and Son, Windsor.

THE "DAVIS" SEWING MACHINE is creating a great sensation at the Furniture Exhibition, where it is now being exhibited; crowds of visitors are thronging to the show, which is a decided success. The band of the Grenadier Guards, conducted by Mr. Dan Godfrey, performs every evening.

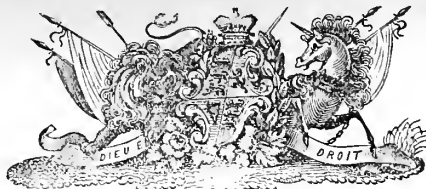


VARLEY & WOLFENDEN, KEIGHLEY, ENGLAND.

SOLE MANUFACTURERS OF THE
CYCLOPS CELEBRATED
LOCK STITCH SEWING MACHINE,
FOR DOMESTIC AND MANUFACTURING PURPOSES,
TO WORK EITHER BY HAND OR FOOT.

These Machines are made from the Best Materials, and cannot be surpassed for excellency of finish and durability.

SHIPPING ORDERS EXECUTED ON THE SHORTEST NOTICE.



PATRONIZED BY HER MAJESTY THE QUEEN.

ALWAYS IN STOCK.

Saddles, Saddle Bags,
Bells, Whistles,
Horn Handles, Oil Cans,
Lubricators,
Oil in Bottles, &c.

BOWN'S PATENT "ÆOLUS"

ALWAYS IN STOCK.

Heads, Finished and
Unfinished.
Cranks, Pedals, Hubbs,
Flanges, Spokes, Rims.
India Rubber Tyres,
Hollow Forks, Backbones,
&c.

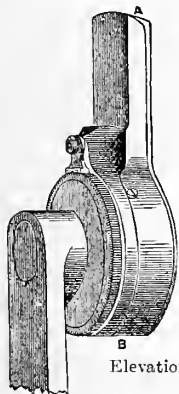
UNIVERSALLY ADJUSTABLE BALL BEARINGS,

For Front Wheels, Back Wheels, and Pedals of Bicycles, Tricycles, and other Carriages.

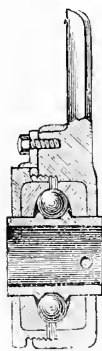
Are dust or dirt proof and longer distances can be travelled without lubrication than with any other Bearings in use. The continued and increasing demand, and the numerous commendations voluntarily accorded by both Amateur and Professional Bicycle Riders of eminence fully establish the fact of their vast superiority over all others.

Front Wheel Bearings.

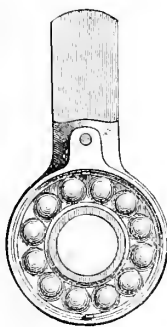
Back Wheel Bearings.



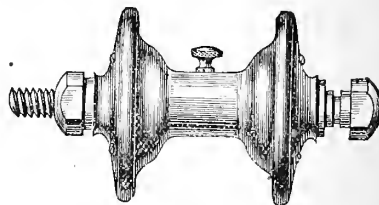
Elevation.



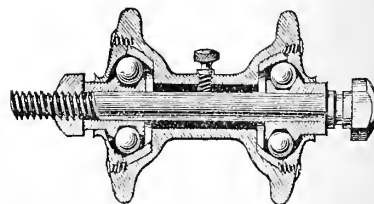
Section
through A B of Elevation.



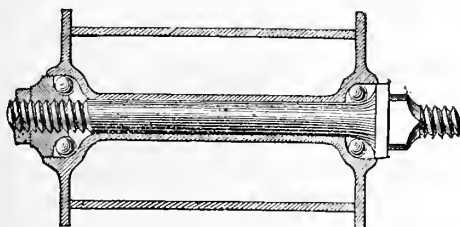
Front view with
Cap removed.



Elevation.

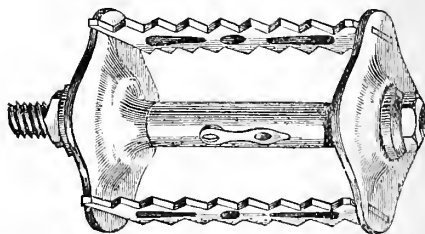


Elevation.



Section.

PEDALS.



Elevation.

SOLE PROPRIETOR AND MANUFACTURER

WILLIAM BOWN, 308, SUMMER LANE, BIRMINGHAM,

ALSO

Manufacturer of General Bicycle Fittings, Materials, Extras, and Stampings in Iron and Steel for same.

THE BUGLET.

PRIZE MEDAL.



THE BUGLET.

PRIZE MEDAL.

The only Bugle ever made having 4 turns. *The Easiest, Best, Smallest, Cheapest, Strongest.* 6 inch by 4 by 2, oval, 4 Turns. Over 2000 now sold. Brass, 17 1/2; Copper, 18 1/6; Special Cmb, 20 1/2, 21 1/2; Nickel, 23 1/2, 26 1/2; Silver Plated, 30 1/2; Engraved 42 1/2; Prizes, 2 to 3 G.; Valves for Buglet, 27 6; 1 Turn Bugles, 3 1/2; 2 Turns 4 1/6; 3 Turns, 6 6; Oval, 6 6 to 8 6; New Model Round Bell, 9 6; Oval Bell, 2 Turns, 12 6; 3 Turns in 4, 14 6. Send for New Lists, Testimonials, 100 Illustrations. Agents' New Show Card.

The Largest Makers of Horns and Bugles in England.

HUNTING, STAG, DOG, COACH, MAIL, BEAUFORT, DRAG, TANDEM, POST SADDLE, WHIP, KOENIG, BICYCLE, TRICYCLE, &c., HORNS. Hunting Horns, ordinary, from 5 1/2; Superior Solid German and other special Styles, from 10 1/2; Silver Mounts from 20 1/2; Sterling Silver from 3 1/2 Guineas; Mail Horns, ordinary German Silver Mounts and Mouthpieces, and solid wire on Bell, from 10 6; Superior, 12 in. Ferrule, &c., from 15 1/2; Keat's Special, 3 1/2 Red. Ribs, or Solid German Silver, from 2 1/2; Keat's Telescope, model, from 25 1/2; Cases, Baskets, Engraving, To-cuprons, Repairs, and all Fittings. Gratis with Purchase, "Instructions to Learn Bugles and Coach Horns, Four Pages, or Post Free, 2 Stamps.

THE BICYCLIST'S CORNET, 7 by 4 1/2, from 3 Guineas. Also for all other Musical Instruments, to HENRY KEAT & SONS (Inventors of the Buglet), Manufacturers, Government Contractors, and Export Factors, 105, MATTHIAS ROAD, LONDON, N.

W. HOSIER & CO.

MANUFACTURERS OF

The Coventry 'Star,' 'Special,' and 'Champion' Bicycles & ricycles.

Also Perambulators with Bicycle Wheels.

Largest Dealers in the World in New and Second-hand Machines.

MIDLAND BICYCLE DEPOT.
SMITHFORD STREET, COVENTRY.

EDELSTEN, WILLIAMS, & CO.,

NEW HALL WORKS,
BIRMINGHAM.

IMPROVED
BUTT-ENDED BICYCLE SPOKES

Can be supplied in all the various Gauges,



THE BUTT END BEING 3 SIZES THICKER THAN THE SPOKE.

Also Manufacturers of Plain Bicycle Spokes in Mild Steel and Best Charcoal Iron, in straight lengths and headed, and every description of Iron, Steel, Brass, and Copper Wires.

LISTS ON APPLICATION.



RIDE

THE

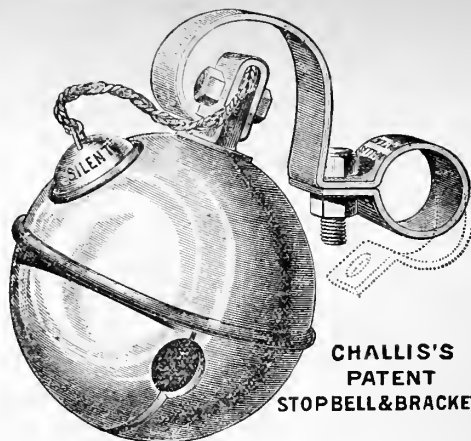
"LEADER" BICYCLE or TRICYCLE

Stourbridge.
"The Leader Spring is a perfect luxury over the roads about here."
CONNOR WALKER.

Kidderminster.
"Your Patent Leader Spring is very easy and comfortable, and the forward play obtained is a great help in mounting hills."
CHAS. LANE.

SEND FOR PRICE LISTS.

G. WALLACE, ASH & CO.,



CHALLIS'S
PATENT
STOP BELL & BRACKET

CHALLIS BROTHERS

Patentees and Manufacturers of

BICYCLE, TRICYCLE & SLEIGH BELLS

NEW LIST, POST FREE.

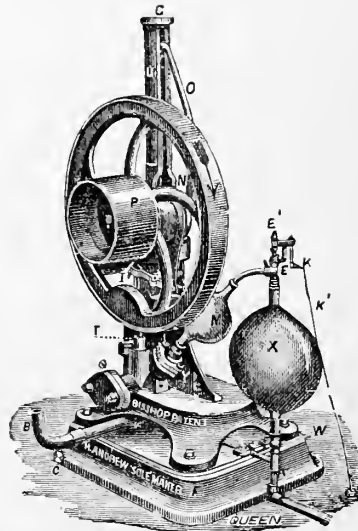
K. BUSHBERRY WORKS, HOMERTON, E.

THE "BISSCHOP" GAS ENGINE.

Piston and Valve need no Lubricator. Will start at a moment's notice.

Power.	Price
One Man	£25 0
One-and-a-half Man	30 0
Two Man	35 0
Four Man	50 0

NO SEPARATE METER



NO WATER WANTED.

J. E. H. ANDREW,
18, Waterloo Road. STOCKPORT.

PRELIMINARY NOTICE

IMPORTANT TO
SEWING MACHINE AGENTS.

"C. W. WILLIAMS"
MANUFACTURING CO.
OF

MONTREAL,
SEWING MACHINE
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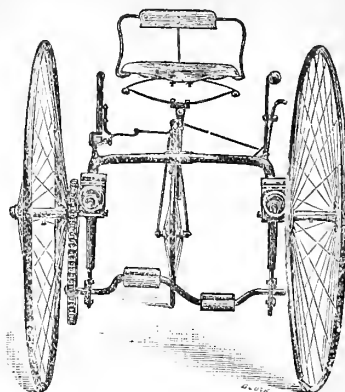
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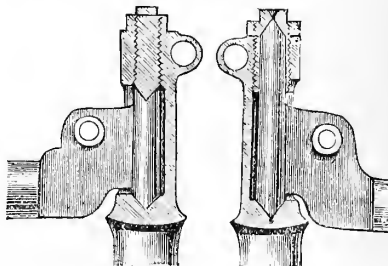
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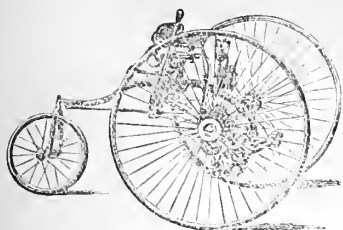
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Families will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several plies of heavy Cloth.
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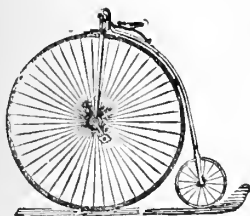
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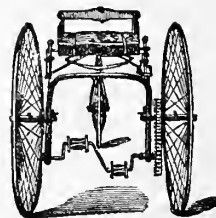
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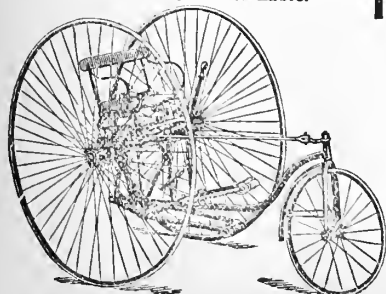
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 A Machine designed on the Best Mechanical Principles.



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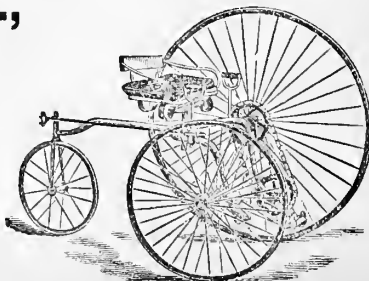
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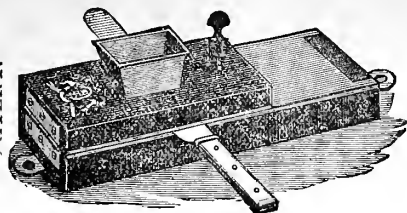
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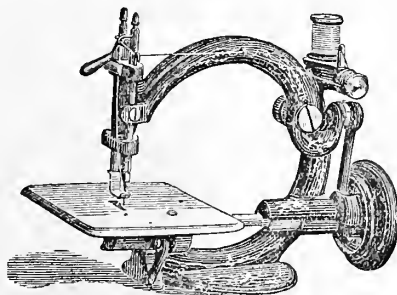
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The "Satin Polish" is the most elegant article of the kind ever produced.

LADIES' SHOES, which have become Red and Rough by wearing, are restored to their ORIGINAL COLOUR and LUSTRE, and WILL NOT SOIL THE SKIRTS WHEN WET. TARNISHED PATENT LEATHER is improved by it.

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carrying or driving wheels are centred. One side wheel is loose on shaft, the other is fixed to it. In chain wheel E, is centred a crown wheel, or pinion B. The crown wheel B gears equally into C and D. The tooth-wheels C and D into which crown wheel B is geared are separately fixed to the side wheels. The bevel wheel C is fixed direct on the hub of loose wheel. The bevel wheel D is fixed to shaft F on the end of this shaft is fixed the other side or carrying wheel. When motion is given to the chain by the treadle, the crown wheel acts as a scale beam between the two, and is free to revolve in any direction required by the variable speed of the side wheels, caused by crook or undulations of the road.

THE PARCELS POST,

It is stated that it has been practically settled that the amounts payable on the postage of parcels under the new system proposed by Mr. Fawcett, will be equally divided between the railway companies and the post office. This arrangement is regarded as a liberal one for the railway companies, but it is understood that the Postmaster-General insists among other conditions, that parcels sent by post shall be conveyed to their destination by fast trains, and not by the ordinary goods service. In the rural districts arrangements will be made for the use of post-carts, ponies, or carrying assistants, as the circumstance of the respective localities may seem to require. The new system will involve considerable expense on the part of the Government, in providing extra room for storage, stamping, &c., the present sorting-rooms at the different post-offices being insufficient and unsuitable for the new service.

PROPOSED PATENT LEGISLATION

A Bill has been brought into Parliament by Mr. Anderson, Mr. Brown, Mr. Broadhurst, Mr. Jackson, and Mr. Hinde Palmer, to amend the law relating to Patents for Inventions. It provides for the appointment of paid Commissioners, to be called respectively the Chief Commissioner of Patents for Inventions, and the second and third Commissioners, at salaries not exceeding, respectively £1,500, £1,200, and £1,000, the salaries to be fixed by the Treasury. The functions of these paid Commissioners is to do all the duty hitherto performed by the unpaid Commissioners and the Law Officers. Letters patent for inventions are to remain in force for the period of 21 years from the date of application, subject to a payment at the end of the seventh, and twelfth, and the seventeenth year respectively; and the time for provisional protection is to be extended to twelve months. The Bill is proposed to come into operation on January 1, 1883.

THE PEDO-MOTOR.

From the parlour or roller skate has been evolved a curious device called a pedo-motor. The apparatus is practically a sandal shod with wheels, and is designed to assist the lame and the halt in walking, and the ordinary walker in making good time. The sandal is provided with four wooden wheels bound with rubber, two on each side, and when strapped to the foot gives the wearer a firm footing. From the toe projects a point or supplementary shod with rubber, and at the heel is a similar projection almost touching the ground and shod with leather. In using these wheeled sandals the ordinary walking step is taken, one foot giving the body a push with the pusher or toe while the other foot rests flat on the four wheels. The result obtained is a greatly lengthened stride, as the sandal rolls forward under the influence of the push, and the walker practically gets over much more ground and with less exertion than in ordinary shoes. The pedo-motor is reported to give a good walker a speed of 12 miles an hour over good side walks, and while the apparatus may be regarded as a mechanical curiosity, it is worthy of some attention on account of its promises for the future. The roller skate was the result of innumerable inventions and patents before it was perfected, and in like manner this wheeled sandal may lead, in time, to something of value.

OH! THEM GOLDEN SLIPPERS.

The idle boy who cares for naught but play,
And by sharp tricks of every kind does shirk
Whatever semblance bears of useful work,
However much his parents may inveigh
Against his acts, heeds not a word they say,
But boldly keeps upon his idle course,
Knowing no shame, no fear, and no remorse.
Until there comes a most eventful day
When parents takes the idle youth in hand,
And warmed the place which nature has designed
To be kept warm by being early tanned—
For that his father will use a strap he'll find;
But if his ma should chance to be the whipper,
She'll warm the place most surely with the slipper.

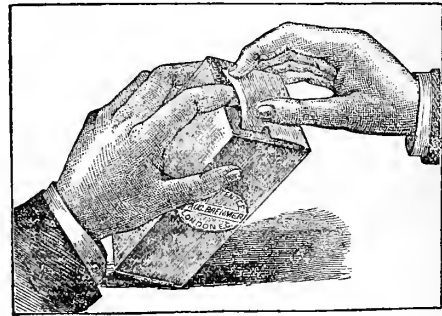
Patent Folding Boxes

FOR PACKING

BOOTS, SHOES, BLACKING BOTTLES,

BOOT LACES,

AND OTHER GOODS.



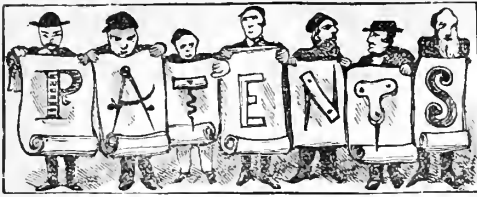
CHEAPNESS, STRENGTH, SAVING OF SPACE

SAMPLES & PRICES ON APPLICATION.

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The following List has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette," by G. F. REDFERN, Patent Agent, 4, South-street, Finsbury, London, and at Paris and Brussels.

APPLICATIONS FOR LETTERS PATENT:—

- No. 1218. H. Beech—a communication from E. Ferguson, of Westminster, Ontario, Canada, for improvements in knife cleaners. Dated March 14, 1882.
- „ 1224. G. Doolittle, of Bridgeport, Connecticut, United States, for improvements in mechanism for sewing and manufacturing furniture tufts, adapted for use as an attachment to sewing machines. Dated March 14, 1882.
- „ 1240. W. Hollingworth, of Bradford, Yorkshire, Boot Manufacturer, for improvements in the method of and apparatus for sewing leather or other material. Dated March 14, 1882.
- „ 1262. R. Mackie, Manufacturer, of Stewarton, Ayrshire, North Britain, and W. Start and H. Scattergood, Machinists, Nottingham, for improvements in the manufacture of knitted fabrics, and in machinery therefor. Dated March 15, 1882.
- „ 1275. H. F. D. Miller, of Birmingham, Lamp Manufacturer, for improvements in lamps for bicycles and tricycles, applicable also to carriage lamps. Dated March 16, 1882.
- „ 1284. H. Witton, of High-street, Stoke Newington, London, for improvements in pianofortes. Dated March 16, 1882.
- „ 1289. W. H. St. Aubin, of Boxwich, Staffordshire, Pattern Maker, for improvements in perambulators. Dated March 17, 1882.
- „ 1395. J. Lucas, of Birmingham, Manufacturer, for improvements in lamps for bicycles, tricycles, and other velocipedes, and for other purposes. Dated March 22, 1882.
- „ 1482. R. E. Wearden, of Manchester, for an improved apparatus for washing clothes. Dated March 28, 1882.
- „ 1502. J. H. Johnson—a communication from S. Borton, of Philadelphia, Pennsylvania, and C. H. Wilcox, of New York City, both in the United States, for improvements in methods of and apparatus for sewing and trimming knit goods and other fabrics, and in forming welts or hems therein. Dated March 28, 1882.
- „ 1546. J. Hod, junior, Scale and Beam Maker, of 3, McDowell-street, Edinburgh, for a silent block mining or sausage machine. Dated March 30, 1882.
- „ 1581. J. Jenner, of 7, King-street, Kensington, London, for improvements in saddles for bicycles and other velocipedes. Dated March 31, 1882.
- „ 1603. W. Fischer, Instrument Maker, of Dresden, Saxony, for improvements in pianos. Dated April 3, 1882.
- „ 1623. A. E. Gorse, of Birmingham, for improvements in bicycles. Dated April 4, 1882.
- „ 1633. H. Clegg, of Accrington, Lancashire, Foreman Mechanic for improvements in driving gear applicable to

wringing and mangling machines, and for pulley blocks, hoists, and other like uses. Dated April 4, 1882.

- No. 1667. T. Forshaw, of Smalley, Derbyshire, Physician, &c., for improvements in tricycles and bicycles. Dated April 6, 1882.
- „ 1673. H. Barratt, of Nottingham, Overlooker, for improvements in circular knitting machinery. Dated April 6, 1882.
- „ 1680. W. Scantlebury, of Kenninghall-road, Lower Clapton, London, for improvements in bicycles and other velocipedes. Dated April 6, 1882.
- „ 1687. C. J. Griffith, junior, of Essex-road, London, Horologist, for an improved motor for driving sewing machines, lathes, tricycles, and the like. Dated April 6, 1882.
- „ 1740. O. A. Browne—a communication from L. Breglia, of Dresden, Saxony, for a new or improved stove. Dated April 12, 1882.
- „ 1744. A. Guillaume and A. Lambert, of Tosses, Belgium, Watchmakers, for improvements in sewing machines. Dated April 12, 1882.
- „ 1764. G. Rixon, of 13, Harrowden-road, Wellingborough, Northamptonshire, for improvements in bicycles. Dated April 13, 1882.

Letters Patent have been issued for the following:—

- No. 4051. E. R. Settle, of Coventry, Warwickshire, for improvements in driving mechanism for velocipedes. Dated September 20, 1881.
- „ 4091. J. Adams, of Camberwell, London, Engineer, for improvements in tricycles and in the mode of steering or guiding the same. Dated September 22, 1881.
- „ 4106. J. E. Leeson, of Oldham, Lancashire, Clerk, for improvements in lamps for bicycles and other velocipedes, and in apparatus connected therewith. Dated September 23, 1881.
- „ 4143. J. Renals—a communication from J. Steiger, of Kerisan, Switzerland, for improvements in the production of embroidery. Dated September 26, 1881.
- „ 4269. F. Cutlan, of Cardiff, Glamorganshire, for improvements in sewing machines. Dated October 1, 1881.
- „ 4317. T. Warwick, of Ashton, near Birmingham, Manufacturer, for improvements in bicycles, tricycles, and other velocipedes. Dated October 4, 1881.
- „ 4319. J. A. Lamplugh, of Birmingham, Manufacturer for improvements in bicycles. Dated October 4, 1881.
- „ 4351. H. Simon—a communication from F. B. Köhler, of Chemnitz, Saxony, for improvements in sewing machines. Dated October 6, 1881.
- „ 4382. C. H. Brassington, of Manchester, Manager of Perambulator Works, for improvements in perambulators. Dated October 8, 1881.
- „ 4406. T. Thorpe, of New Basford, Nottinghamshire, Manufacturer and Machine Builder, for improvements in machinery or apparatus for the manufacture of knitting or looped fabrics. Dated October 11, 1881.
- „ 4426. H. J. Haddan—a communication from R. J. Creelman, of Georgetown, Ontario, Canada, for improvements in knitting machines. Dated October 11, 1881.
- „ 4492. W. Harrison, Mechanic, of 128, Portland-street, and 69, Hyde Grove, Manchester, for improvements in velocipedes of two or more wheels, part of which is applicable to other vehicles. Dated October 14, 1881.

ESTABLISHED 1836.

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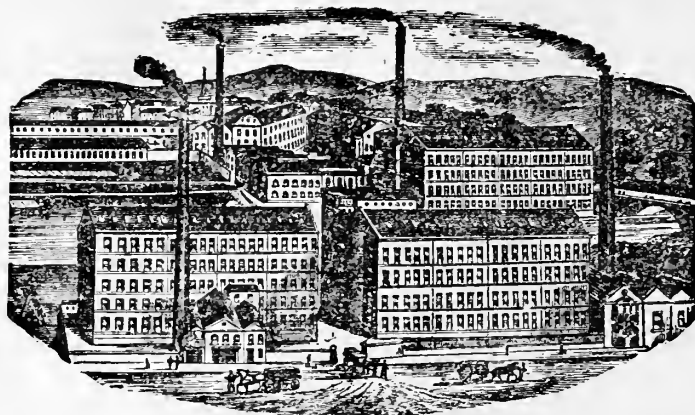
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AT THE

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FINLAYSON, BOUSFIELD & CO.,
FLAX MILLS,
JOHNSTONE, near GLASGOW,
 AND
GRAFTON FLAX MILLS U.S.

THE JOURNAL OF Domestic Appliances AND SEWING MACHINE GAZETTE.

Vol. X., No. 144.

JUNE 1, 1882.

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Manufacturers of all kinds of Linen Threads.

Highest Medals were awarded Dunbar & Co's Threads wherever exhibited
FOR HAND OR MACHINE SEWING OF ALL DESCRIPTIONS,
SUITABLE FOR ALL PURPOSES, SHOES, SOLE SEWING, TAILORS, &c.

DUNBAR AND CO.'S THREADS ARE THE BEST.

Samples and Prices on Application.

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HEBERLING RUNNING STITCH
SEWING MACHINE Co.



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ET A L'ETRANGER.
By Her Majesty's Royal Letters, Patent.



THE HEBERLING RUNNING STITCH SEWING MACHINE.

THE ORIGINAL MACHINE FOR GAUGING, GATHERING & TUCKING

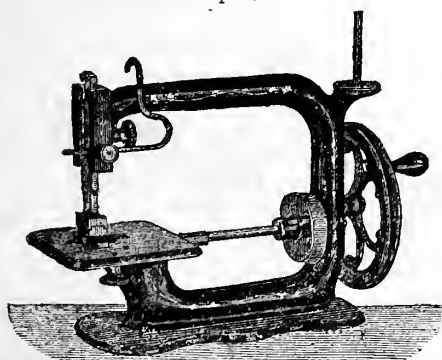
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EXPORTERS LIBERALLY DEALT WITH.

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Hand or Treadle.

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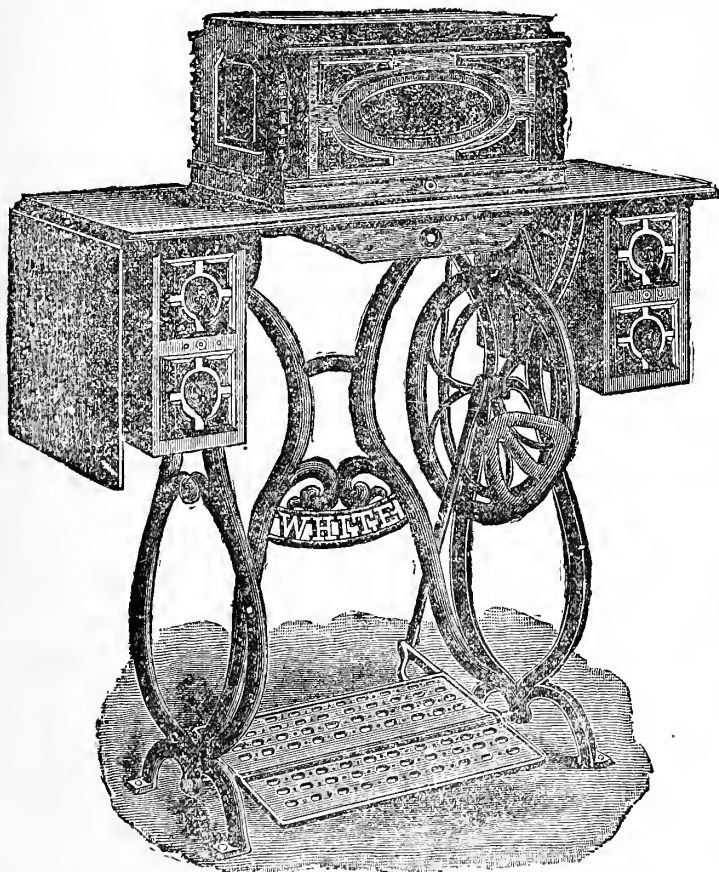
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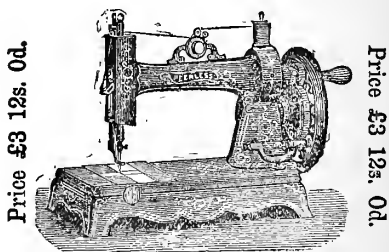
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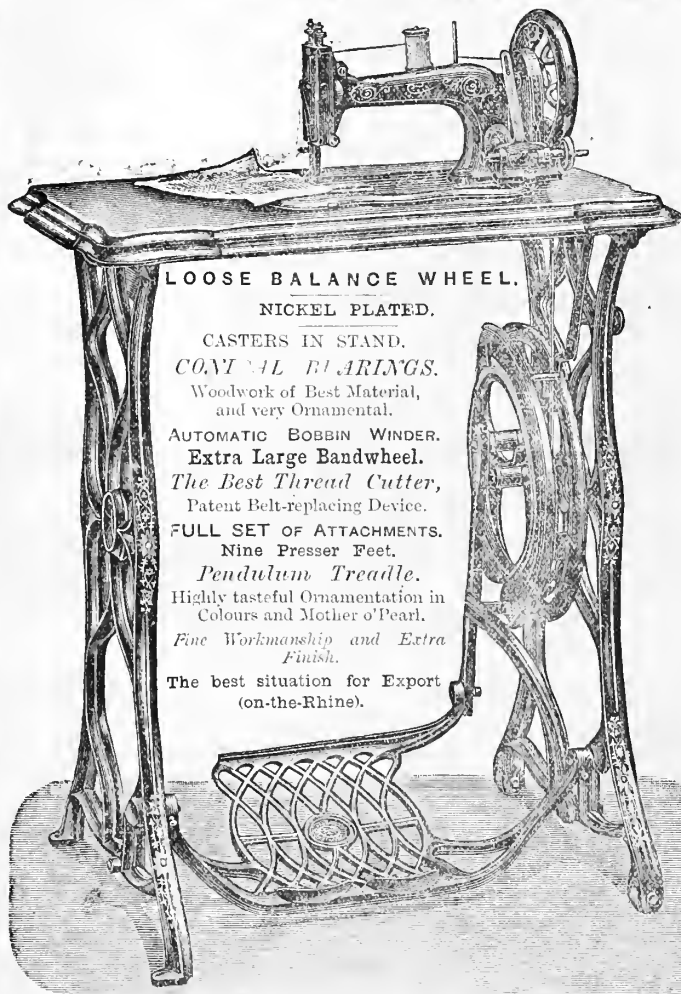
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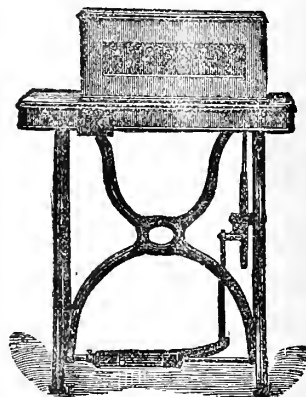
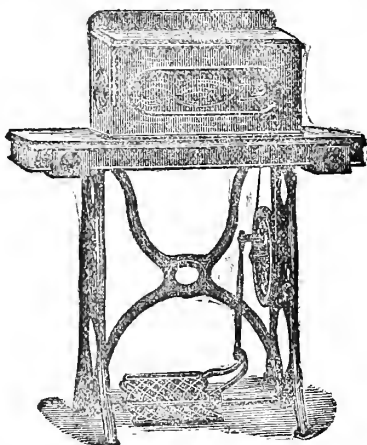
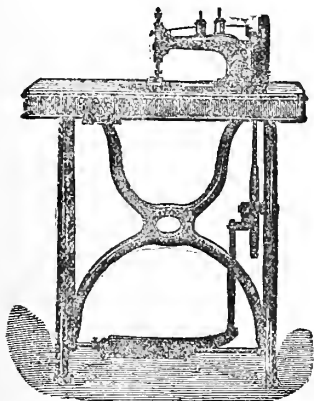
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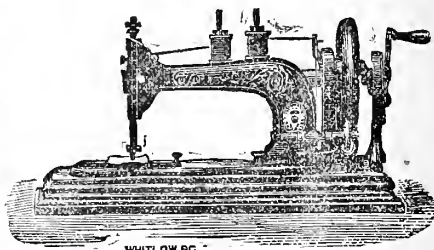
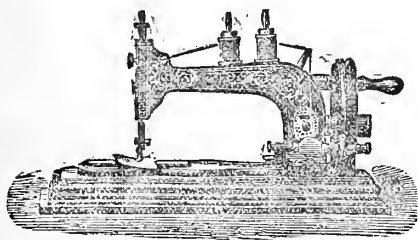
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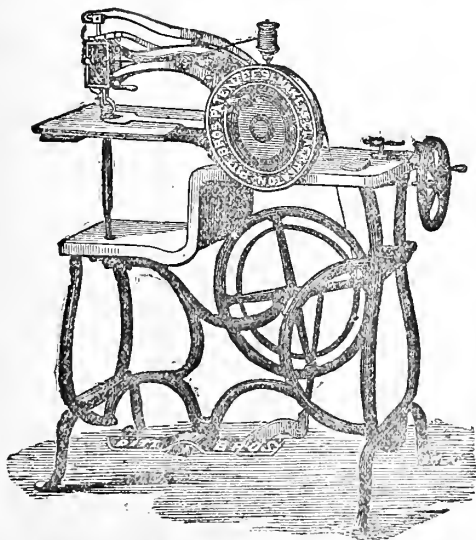
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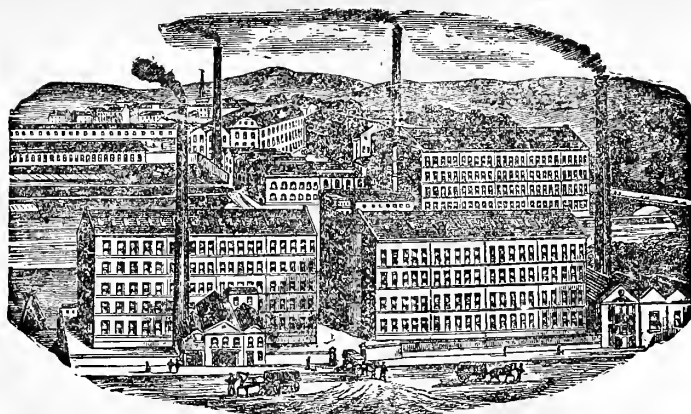
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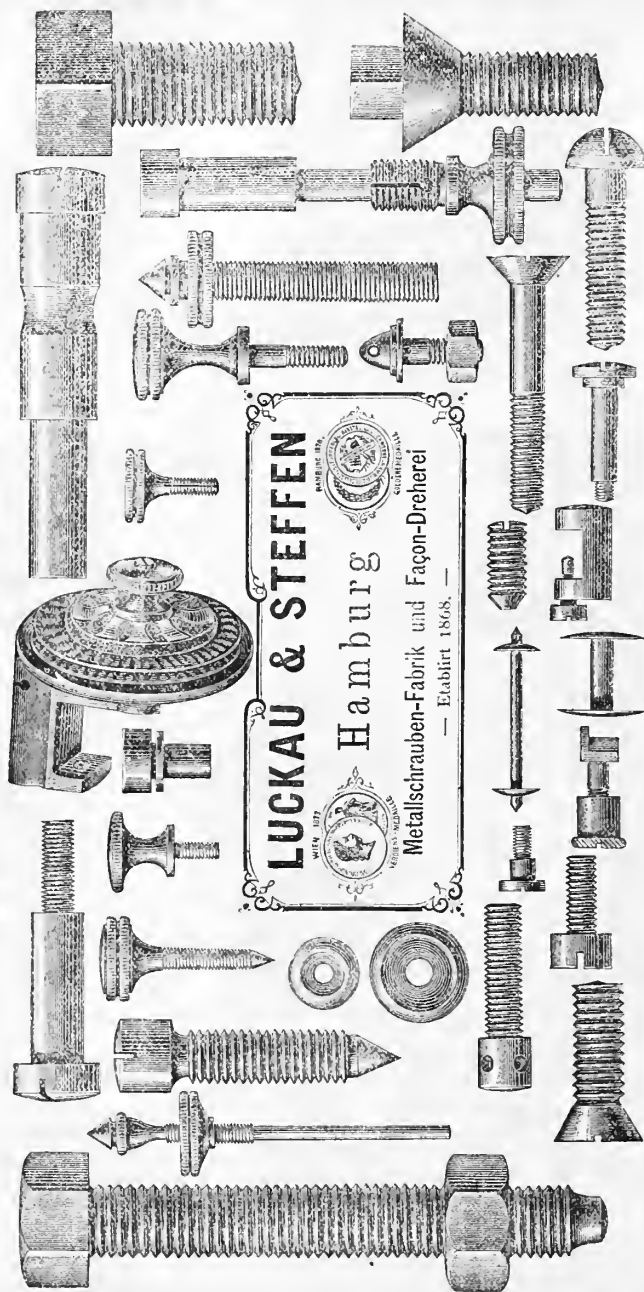
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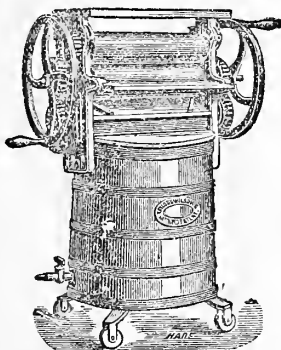
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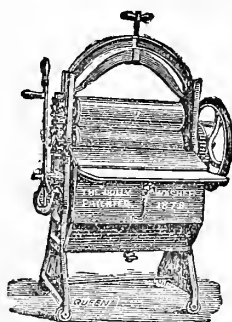
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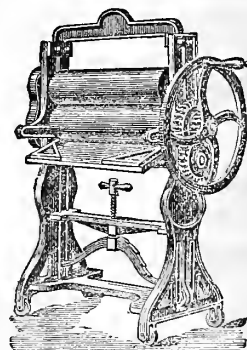
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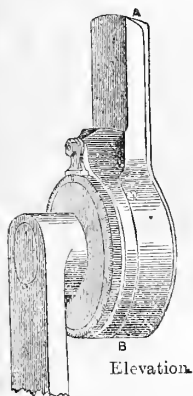
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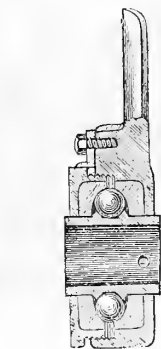
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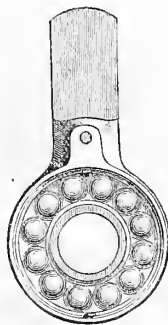
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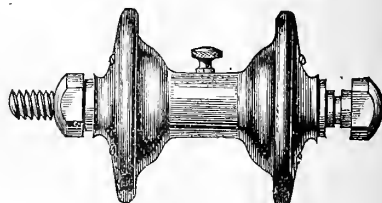
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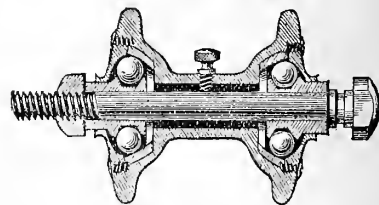
Section
through A B of Elevation.



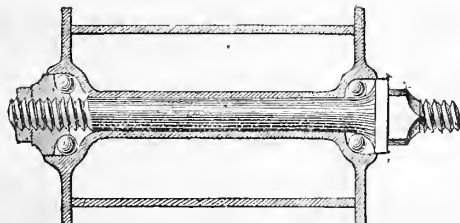
Front view with
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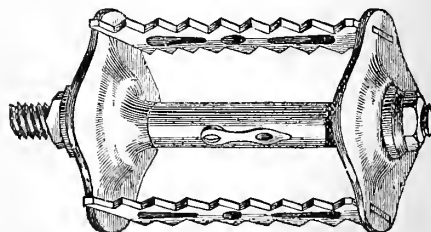


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Shibley, 19, Kirkgate
Shrewsbury, 4, Market-street
Sittingbourne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 25, Gao-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, Church-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadincote, Station Street
Swindon, 32, Regent-street
Tamworth, 34, Church-street
Taunton, Bridge-street
Torquay, 58, Fleet-street
Turro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-road
Wedsnesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 10, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Windsor, 64, Peasod-street
Winsford, Over-lane
Wirksworth, North-end
Wisbeach, 31, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-Row
York, 24, Coney-street

WALES.

Abergavenny, 19, Market-street
Aberystwyth, Market-hall
Cardiff, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Llanmaes-street
Carmarvon, 5, Bridge-street
Dolgellau, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pontypool, Market-hall
Pontypridd, Market-hall
Swansea, 103, Oxford-street

SCOTLAND.

Aberdeen, 225, Union-street
Arbroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Cupar-Fife, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 74, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 23, Castle-street
Glasgow, 62, High-street
Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st.
Hamilton, 32, Cadzow-street
Hawick, 3, Tower-knowe
Inverness, 14, Union-street
Kilmarnock, 53, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 81, Murray-place
'Ain, Lamington-street
Thurso, Princes-street

IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 85, Church-st.
Belfast, 3 and 4, Donegal-sq., N.
Carlow, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George-street
Dublin, 69, Grafton-street
Ennis, 41, St.-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
Galway, Dominick-street
Kilrush, Moore-street
Kingsdown, 65, Lower George-st.
Limerick, 31, Patrick-street
Londonderry, 1, Carlisle-road
Mullingar, O'Connell-street
Navan, Trimgate-street
Newry, 18, Sugar-island
Parsonstown, 2, Saffins
Queenstown, Harbour-row
Sligo, 45, Knox-street
Tralee, 40, Bridge-street
Waterford, 124, Quay
Wexford, Biskar-street

THE LIGHT RUNNING STANDARD SEWING MACHINE

A MODEL OF SIMPLICITY AND BEAUTY
NEVER GETS OUT OF ORDER
AGENTS WANTED

LATEST IMPROVED
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A PATTERN OF PERFECTION
MAKES NO NOISE
& DOES NOT FATIGUE THE OPERATOR

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RAYMOND'S CANADIAN SEWING MACHINES.

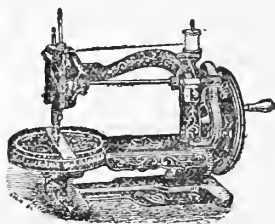


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c. — (See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



ALSO

£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work. Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder.

Testimonials, Prospectuses, Samples of Work, and all particulars free on application.

Raymond's No. 1 and 2 TREADLE MACHINES for Families, Dressmakers, and Manufacturers

AGENTS WANTED.

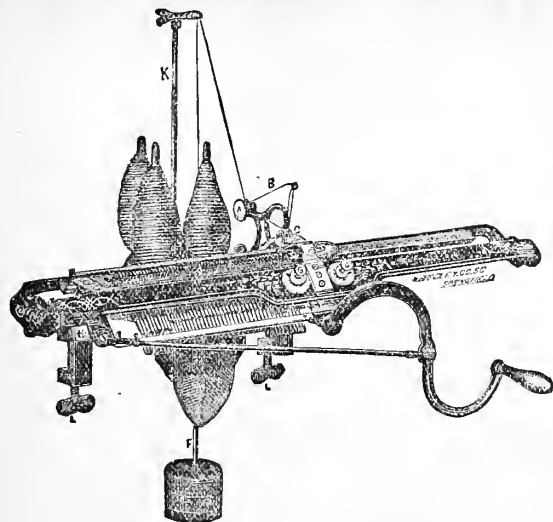
CHIEF DEPÔT FOR EUROPE AND EXPORT:

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THE GENUINE "LAMB" ORIGINAL KNITTING MACHINE.



"LAMB," Registered Trade Mark.

Knits Hosiery of all sizes and perfect shape without seams exactly like handknitting;—knits also the greatest variety of different Garments, Fancy Goods, &c., &c.

It is worked by hand,

Is constructed of best material, and in the highest style of workmanship.

Will last a lifetime

Delivered well packed complete, with Spooling Machine, &c.

INSTRUCTION FREE.

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From £13 13s. upwards.

Liberal discounts to Merchants and the Trade
Any size or gauge of machine built to order on special terms and arrangements.

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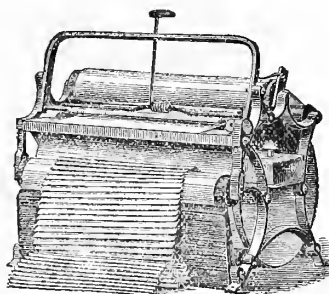
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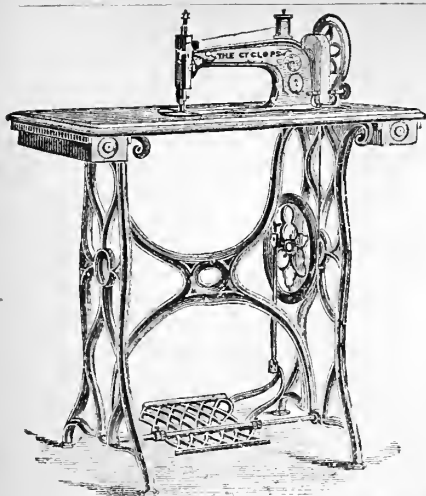
**THE
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A SAMPLE MACHINE sent on receipt of remittance, 25s., payable to
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SOLE MANUFACTURERS OF THE
**CYCLOPS CELEBRATED
LOCK STITCH SEWING MACHINE,**
FOR DOMESTIC AND MANUFACTURING PURPOSES,
TO WORK EITHER BY HAND OR FOOT.

These Machines are made from the Best Materials, and cannot be surpassed for excellency of finish and durability.

SHIPPING ORDERS EXECUTED ON THE SHORTEST NOTICE.

ELIAS HOWE SEWING MACHINES,

ADAPTED FOR EVERY DESCRIPTION OF WORK.

Families will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several plies of heavy cloth.
Dressmakers who once use THE HOWE give it the preference over all others for beauty and durability of Stitch.

PURCHASE NO MACHINES

Complete with
all Appliances
from £4 4s.



The Howe Machine Co. are also manufacturers of Bicycles and Tricycles.
THE HOWE BICYCLE. Price from £15 15s.
Possesses all the latest improvements, and will be found unrivalled for quality of workmanship and material. See special Lists.

THE HOWE TRICYCLE. Price £16 16s.

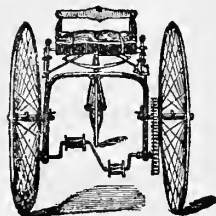
A Machine designed on the Best Mechanical Principles.

Manufacturers of Boots and Clothing, who carry on a high-class trade, ONLY USE THE HOWE MACHINE.

A trial is all that is necessary to convince those in want of a Sewing Machine that THE HOWE is entitled to pre-eminence over all others.

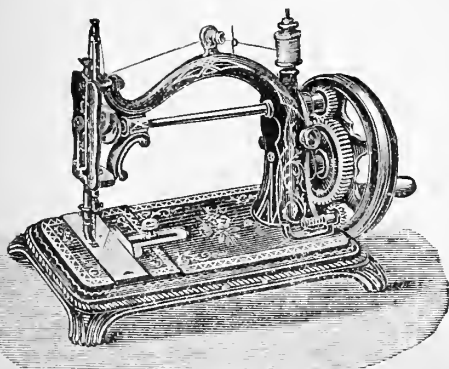
WITHOUT THIS TRADE MARK.

Price Lists and
Samples of Work
post free.



THE HOWE MACHINE COMPANY (Limited), 46 & 48 Queen Victoria Street, London.
Factory: Avenue Street, Bridgeton, Glasgow.

Every Machine made by us bears the following Trade Mark stamped on the Cloth Plate.



THE "PRINCESS WALDECK."

THE HEBERLING R.S. SEWING MACHINE COMPANY,

46, CANNON STREET, LONDON, E.C.,

Manufacturers of the

NEW "PRINCESS WALDECK" Lock Stitch Sewing Machine

With Patent Automatic Winder and all the latest improvements,
FOR DOMESTIC AND MANUFACTURING PURPOSES,
To work either by hand or foot.

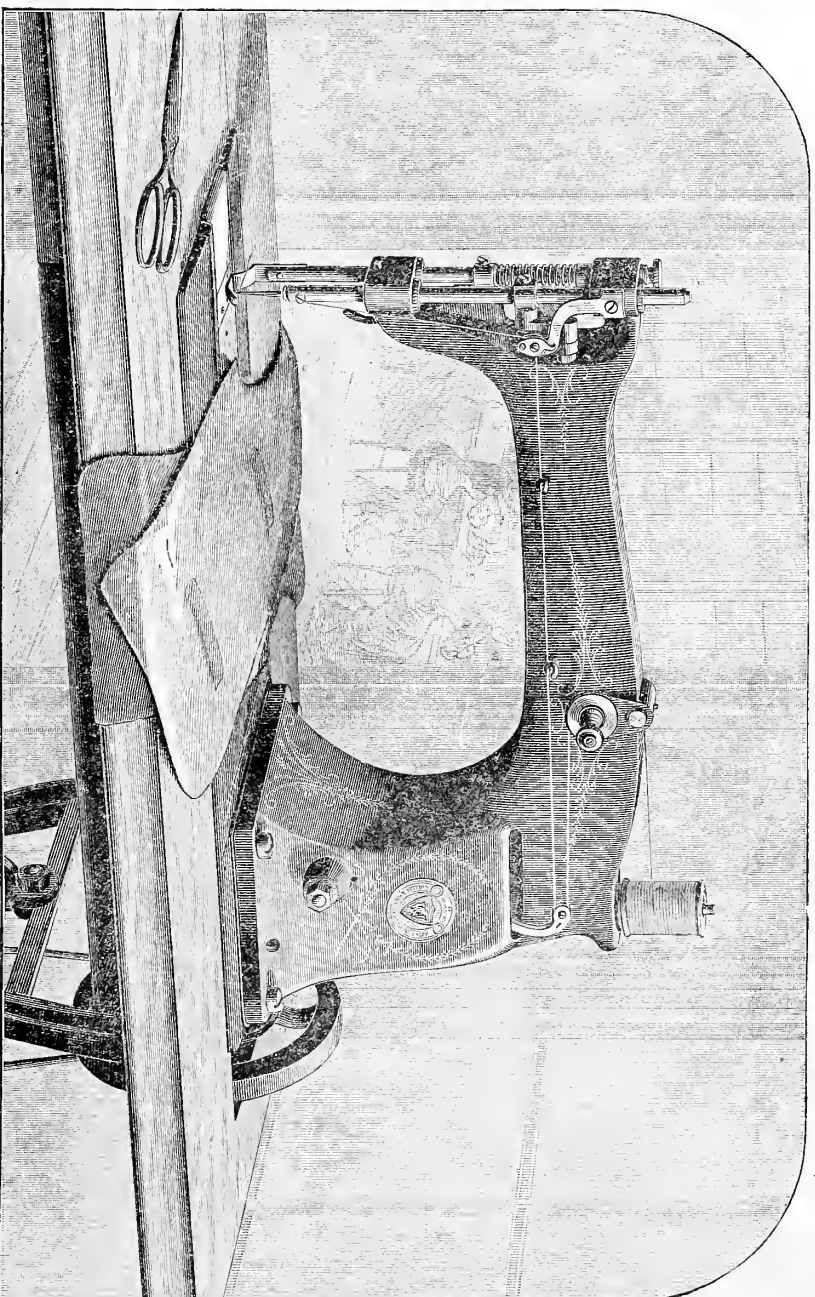
These Machines are made from the Best Materials, and cannot be surpassed for excellence of finish and durability.

BEWARE OF IMITATIONS.

Write for Samples of Work and Prices.

WHOLESALE AND FOR EXPORTATION ONLY.

SUPPLEMENT TO THE
JOURNAL OF DOMESTIC APPLIANCES AND SEWING MACHINE GAZETTE,
JUNE, 1882.



THE NEW No. 10. SEWING MACHINE, MADE BY
THE WHEELER AND WILSON MANUFACTURING COMPANY.
Chief Office:—21, QUEEN VICTORIA STREET, LONDON, E.C.

ESTABLISHED 1836.
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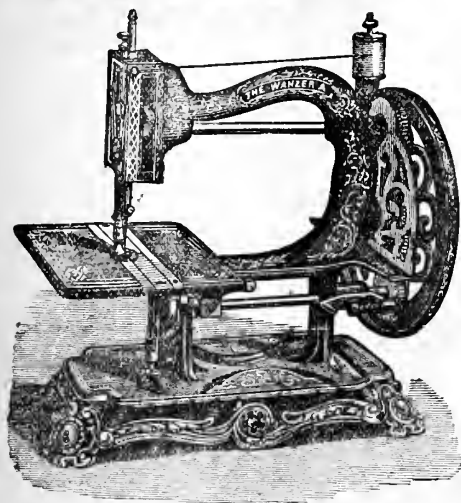
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THE "WANZER"

LOCK-STITCH, HAND OR FOOT, SEWING MACHINES.

First Prize Medals, Honours & Awards, wherever Exhibited.



WANZER "A"

IS THE

Great Mechanical Success of the Age.

It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

THE NEW "LITTLE WANZER."—Entirely reconstructed and improved. Nickel-plated, Loose Wheel, New Patent Shuttle, Take-up Lever and Spooler. £4 4s.

WANZER "A" Simplicity Itself.—The most powerful yet light running. Hand Machine, straight race. £4 4s.

WANZER "C" Light Foot Family Machine, entirely New, with every improvement up to 1879. £6 0s.

WANZER "F" Family Machine, with Reversible Feed and Stitch Lever. £7 10s.

WANZER "E" Wheel Feed Machine, for heavy work of all kinds £8 8s.

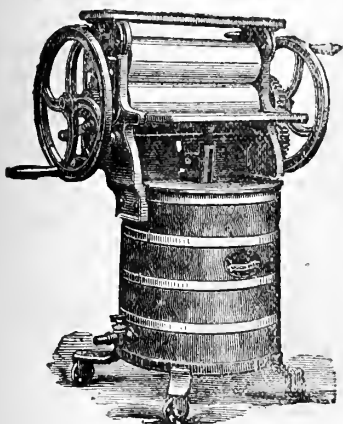
WANZER PLAITING, KILTING AND BASTING MACHINES,

Over 200 varieties of perfect Plaiting or Kilting, from 30s. complete. *The only Machine Kilting and Basting at one operation.*

The Wanzer Sewing Machine Company,
LIMITED,

Chief Office—4, GREAT PORTLAND ST.,
OXFORD CIRCUS, LONDON, W.

NEW HIGH-CLASS WASHING MACHINE.



The "PARAGON" Washer, Wringer and Mangle (KENWORTHY'S Patent) is a compact powerful, and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize Silver Medal, General Competition, and also an extra First Prize, Silver Medal for Improvements; Worsley Agricultural Show, the Society's Medal; Altrincham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society Medal; also gained Prizes and Honours at the Northumberland, Halifax, Tormorden, and Preston Agricultural Shows.

Showing PLUNGER, which works up and down in tub about 60 times per minute, atmospherically forcing the hot water and soap through the clothes, thus not only loosening the dirt but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate articles.

Mr. JORDAN EVANS, 92, Cawder Street, Prince's Road, Liverpool, says:—"I beg to inform you that the 'PARAGON' Washing, Wringing, and Mangling Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in less than two hours."

Patentees and Sole Manufacturers of the Celebrated and World-Renowned PATENT "CANADIAN WASHER," which is the most Simple, most Effective, and the most Economical Washer ever offered to the Public. This is on the same principle as the "Paragon Washer" Plunger, but is made to use by hand in any ordinary maiden tub, washtub, or bowl. Over 30,000 have been sold in a short time.

AGENTS WANTED in Districts not yet Represented.

E. N. KENWORTHY & CO., WASHING MACHINISTS, **OLDHAM, LANCASHIRE.**
ALPHA WORKS,

London Agent, Mr. HARPER TWELVETREES, Finsbury Pavement, E.C.

WHEELER AND WILSON'S NEW No. 10. SEWING MACHINE.

OUR ILLUSTRATED SUPPLEMENT for this Month will give our readers a good idea of the Wheeler and Wilson Manufacturing Co.'s new No. 10 sewing machine. It is especially designed for heavy work, Tailoring, Upholstery, Stay and Corset Manufacture, as well as for Stitching Leather.

in the feed motion and an improved mode of altering the stitch. There is, besides, greater space for work under the arm, and more direct action to the needle from the driving power. The under spool being held by a spring, partly on the ring and partly on the hook, ensures a more regular tension. The clear space under the



FIG. 1. THE MACHINE COMPLETE ON STAND.

The Company have in their New No. 10 a machine, which possesses several valuable improvements. It is a machine specially adapted for heavy work, but, notwithstanding its larger size, it is so

arm, without any projections, prevents any obstruction to the work, also without variation of tension. The take-up being more continuous and regular, prevents jerking.

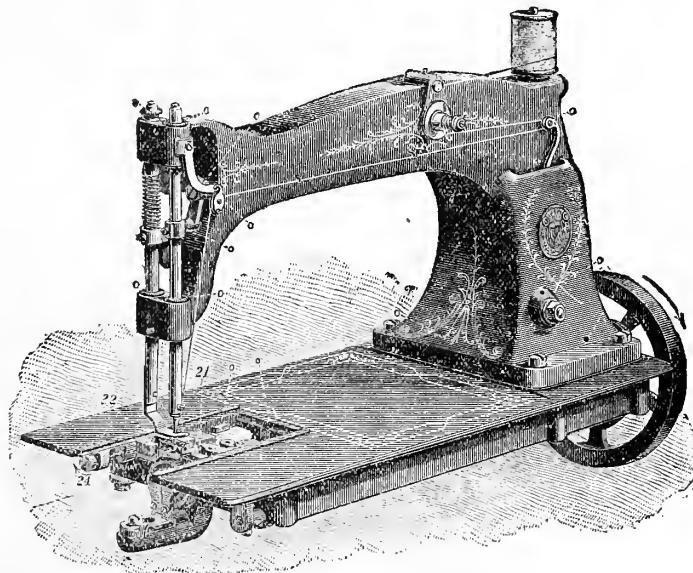


FIG. 2. NEW No. 10 MACHINE, PLATE SLIDES REMOVED.

constructed as to run at as high a rate of speed as the lightest lock stitch machine, without irregularity of tension. There is less friction

Of our engravings, fig 1 represents the machine complete on stand, fig 2 represents a general perspective view of the machine

with the plate slides removed, fig 3 being a back view, with the arm cap removed, so as to reveal the simple mechanism by which the needle is actuated. Fig 4 is an underside view of the machine, whilst fig 5 represents the bobbin holder. In these various figures 1 is the front plate slide, 2 is the back plate slide, 3 the throat plates, 4 the presser foot, 5 the presser bar, 6 the presser bar spring, 7 the presser thumb-screw, 8 the presser lifter, 9 the needle-bar, 10 the needle set screw, 11 the needle bar thread guide, 12 the guide roller, 13 the thread leaders, 14 the tension pulley, 15 the tension

We also hear that the Company's new No. 8 Machines are quite as extensively purchased in lots from 50 upwards at a time, and lately saw an order for 100 of them from a well known firm.

Their new No. 6 Machine (the one recommended for leather work) is likewise in great demand, and as it may be of interest to the trade we append the Judges report upon the Company's New No. 6 machine at the late American Institute Fair, where the Wheeler and Wilson Company received the highest award:— "While we consider a description of the details of construc-

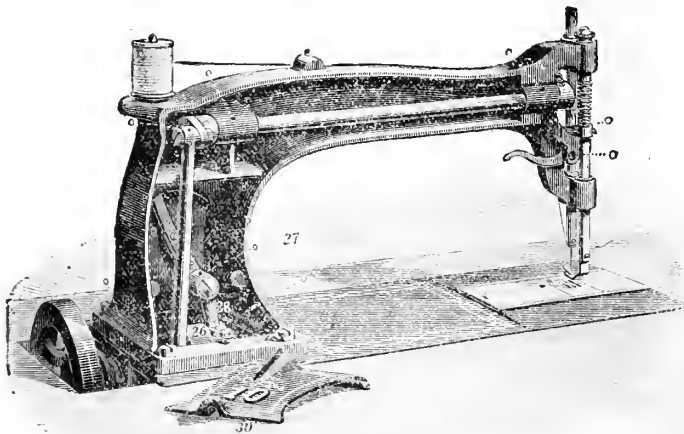


FIG. 3. NEW NO. 10 MACHINE ARM CAP REMOVED.

nut, 16 the thread cheek, 17 the take-up, 18 the rotating hook, 19 the bobbin and case, 20 the bobbin holder, 21 the feed bar, 22 the feed points, 23 the feed cams, 24 the lower tension screw, 25 the stitch regulating lever, 26 the take-up cam, 27 the take-up slide, 28 the take-up rocker, 29 the band wheel, and 30 the arm cap.

There is no doubt whatever, that the new No. 10 machine will add greatly to the already established fame of the Company, whose

tion and method of operation of this apparatus as but a wearisome repetition of what has been before carefully explained by previous boards of Judges, and what is generally understood by all persons interested in the subject, we beg to be allowed to refer briefly to a few dominant points in the character of the machines, upon which have principally been founded the opinion we have formed; and the consideration of which we expect to justify

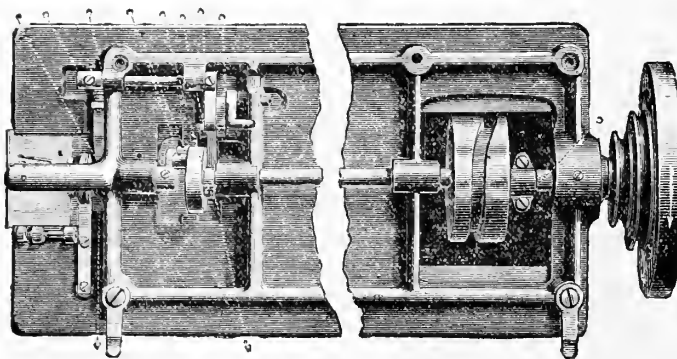


FIG. 4. NEW NO. 10 MACHINE, UNDERSIDE VIEW.

machines stand unrivalled for speed, durability, ease and quickness of movement. Like all the manufactures of the Company, the new No. 10 machine is made with perfection, of best material and finish.

Although so recently introduced, the new No. 10 Machine has met with an unprecedented sale among manufacturers of various kinds of goods. The Company at their City Office alone have received orders for more than a thousand of these machines—one firm ordering 100, another 200, and a third 100—besides various smaller orders from other firms.

us in the recommendation we hereby submit. The great advantage which it obtains in its distinctive feature—the rotative hook—over the class of machines using the reciprocating shuttle, is one which needs to show it no special demonstration; it being apparent at once, not only to the educated mechanic, but to any intelligent observer. The variable speed arrangement, which enables the 'take up' to bear the labour of pulling the thread through the cloth, instead of causing the strain to be borne by and on the small bearing formed by the eye of the needle, thus greatly lessening the

trouble caused by cutting the thread, is a most important improvement, making also a larger size of thread possible, with the same needle, such an aid in the sewing of leather, and in making water-tight seams. The method of obtaining the lower tension by the cam which 'hauls taught' the thread at the proper moment—not till then—and immediately releases it on the completion of the stitch; knots and bunches in the thread passing without impediment effect a desirable result in a most simple and mechanical way. While we know of no automatic tension, that of this machine approaches such a degree of perfection, as nearly as any, and more so than most devices. It is more easily adjusted and needs less regulating than any other that we know of. The range of work successfully performed by the apparatus known as the 'No. 6 Machine' in our presence was larger than we have elsewhere seen on any one machine, going from many thicknesses of tin and cloth together, to the finest cambric, without stopping the machine, and the sewing all perfect, showing the perfectionment

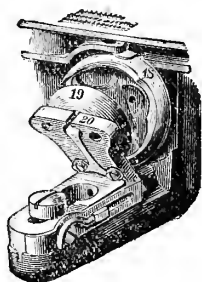


FIG. 5. NEW NO. 10 MACHINE, THE BOBBIN HOLDER.

of the tension device used. The machine is well made, all its parts being fitted to gauge and consequently interchangeable. It has already received from the American Institute all the Awards and recognition under the rules possible to a sewing machine. We consider the apparatus known as the 'No. 6' to be the most mechanical in construction, and as attaining the best results of any machine we know of; and we do not hesitate to declare it as, in our opinion, at present, the best sewing apparatus in the world. We recommend for it the highest recognition under the rules that can be awarded, the Special Medal. J. G. Brosnahan, U.S.N., B. F. Wood, U.S.N., J. W. Collins, U.S.A., Judges.

PRESENTATION TO MR. GEORGE SAWYER, MANAGER OF THE WHITE SEWING MACHINE COMPANY.

On Thursday, May 11th, a pleasant little episode interrupted the busy work at the offices and packing-rooms of the White Sewing Machine Company, at 19, Queen Victoria-street, E.C. Exactly a year ago, Mr. George Sawyer, the manager, who has the faculty of putting himself perfectly *en rapport* with all his associates (although a strict disciplinarian), was presented with a handsome piece of jewelry, on the occasion of his first birthday spent in England. On the second anniversary in this country, Mr. Sawyer, who had just returned from the continent, was somewhat taken aback at being the recipient of a handsome set of heavy gold solitaire sleeve links, with monogram, the expense of which was defrayed by voluntary contributions from all in the employ of the Company. An address was presented on behalf of all by Mr. John Reed, in which after best wishes were suitably conveyed, a hope was expressed that next year Mr. Sawyer might give an opportunity of a presentation of a cradle. A good joke, as at present the worthy manager continues a confirmed bachelor.

It is as pleasant to hear of these little events of social good feeling as it is to know of the wonderful success of the "White" in Europe.

FRICITION.

Simplicity of construction is of course aimed at by the inventors and builders of sewing machines, to keep down friction as much as possible, and thereby render the instruments smoother, lighter running and more durable. The subject of friction is one of paramount importance to sewing machine builders, as well as the trade generally, and a few words here concerning it will not be out of place.

In solids, there are two kinds of friction, the rolling and the sliding, subject to different laws. In the construction of sewing machines the laws governing the friction of journals or bearings are of the greatest interest, embracing, as they do, both solid and fluid friction. The latter varies with the square of velocity, is proportionate to the area of the rubbing surfaces and independent of the pressure. A fluid lubricant forms a fluid cushion, separating the surfaces more or less, according to the viscosity. The same surface lubricating with a given material may, under light pressure seem to be governed by the laws of fluid friction, while under heavy pressures, the lubricant being squeezed out from between the solid surfaces, the laws of friction of solids come into play. The laws of solid friction differ with the nature of the rubbing surfaces. With metal it varies only with the pressure, being independent of the extent of surface, contact and velocity. The limit of abrasion is determined by hardness of the softer of the two materials in contact, the friction being, of course, greatest with soft materials, least with hard ones. The friction of lubricated surfaces is determined by the lubricant rather than by the solids.

With rotating journals friction is greater when the journals or bearings are not round than when they are truly cylindrical; greater when they are short than when long; greater when the surfaces are not finely finished than when of perfect surface; greater when improperly lubricated than when duly supplied with a fit lubricant; greater at high speed and pressure than at slow.

Bearing surface must be given by length rather than by diameter. It is the weight per square inch of longitudinal section that determines the heating and friction. Bearings can not run cool unless the minute high places on them are either removed or reduced and the low places filled up with some sort of unguent. If the cap of journal boxes are left to loose the journal will wobble, and if screwed down to tight the lubricant will burn out and the bearing becomes ruined.

SNOKE-ABATEMENT EXHIBITION.—The Executive Committee of this exhibition has made the following awards:—Cooking-stoves, suitable for about 12 persons.—H. C. Davis & Co., Camberwell, silver medal; Beverley & Wilde, Leeds, silver medal; J. Wright & Co., Birmingham, silver medal; Stark & Co., Torquay, silver medal, in recognition of the principal adopted by them of burning the gas outside the oven in which the cooking is carried on; Billing & Co., New Oxford Street, bronze medal; Leoni & Co., New North Road, London, bronze medal; Mr. C. Wilson, Leeds, bronze medal; Waddell & Main, Glasgow, Bronze Medal; Stark & Co., Torquay, for Cox's ventilating gas-stoves, a silver medal; Waddell & Main, Glasgow, for Dr. Siemens' gas and coke fire, a bronze medal; to G. Wright & Co., Rotherham, for Dr. Siemens, gas and coke fire, a bronze medal. Gas baskets or fire from which the heat is conveyed by radiation.—Leoni & Co., New North Road, London, for hanging gas-fire, a bronze medal.

BICYCLE AND TRICYCLE NOTES.

The show of cycles at the Aquarium is a good one. Most of the Coventry manufacturers are represented, and there is a good attendance of the public, who show great interest in examining the exhibits.

Messrs. Worman, Laxon and Yonett, Bicycle Manufacturers, Coventry, have dissolved partnership, that is, so far as regards Mr. Laxon:

REVIEWS.

"My task is done, having occupied every leisure moment of my time for the last seven years." Such are the words we find on the closing page of Mr. Platt's new book "Progress." The "task" referred to is a series of six books, viz., "Business," "Morality," "Money," "Economy," "Life," and the abovementioned volume "Progress." Mr. Platt must have worked hard; he is not a man who has the whole of his time to spend in the study, for all the day he is at the helm of one of the largest commercial houses in London. It is almost a marvel how he can have found so much leisure, for the sentences that come from his pen have not been rapidly written against time, but have been put on paper only after deep and careful thought. There is one aim we always find in his works, and admire; it is not absent from "Progress." It is the desire to benefit his fellow creatures; to give them brighter views of life, to impress on them the necessity of being thrifty and economical, and also "above all to develope, expand, and enlarge their mental and moral powers."

The last work of his pen now before us, we find divided into sections. After an introduction, in which the author gives his readers some excellent advice, we come to the first section "Causality." "Causality is that faculty of the human mind," says the author, "which impresses its possessor with an irresistible conviction that every phenomena or change in nature is caused by something, and hence, by successive steps, it leads us to the 'First Cause' of all. It is the reasoning faculty by means of which, looking at the actions of men, we are able to consider the motives, or moving causes, from which their actions proceed; it is the faculty which looks beyond the surface, and perceives the dependence of phenomena, and explains to mankind that what seems mere juxtaposition or coincidence is caused by that invisible bond of connection we call 'cause and effect.' Without it, a juryman has great difficulty in convicting on circumstantial evidence; without it, men are blind to remote consequences, and are apt to stigmatize as visionary all intellectual perceptions which their own minds cannot reach; without it, men reject principle as vain theory, and are captivated by 'expedients,' and represent those as the beau ideal of practical wisdom. Causality is opposed to dogmas and creeds, reason seeing in such but obstinate stumbling-blocks to progress. Causality has weakened, and must ultimately destroy, the bigot's sway; blind faith must recede as reason advances. Causality sees in the world's woe and misery the result of disobeying the laws of our being, and advises men to get rid of distress, sickness, crime, by conforming to those laws."

Towards the close of this same section. Mr. Platt touches upon the burning question of the day, the abolition of the House of Lords. The following we quote as his opinion on that subject, "The House of Lords is an institution of vital necessity to preserve the liberties of the people; it is essential to the duration of a popular government; it is needed to give weight, stability, and a permanent, because popular, authority to a second House; it is necessary to restrain prominent members in the House of Commons. If the Commons were sole masters, history would repeat itself; a Cæsar would soon terminate a power to which nature had given no durability." A little further on he says, "If the people be wise, they will jealously watch and preserve to the House of Lords this power; seeing in this body the safety-valve of the State—the necessary barrier to ambition in the other House overleaping itself. Its indirect influence is very great, in compelling Radical Ministries to think of what the 'Lords' are likely to pass; and it is only by retaining its power, like the Judges, of being above intimidation by the measures of the Commons, that it can continue to perform public services without which no popular government can long exist, or national prosperity continue."

The second section of "Progress" is "Acquisitiveness," and under that heading Mr. Platt again touches upon another subject of the day, that of Ireland. There are several pages of clear sensible argument, well worth the perusal of all who take the

slightest interest in that country. His opinions on the rent question are thoroughly practical and concisely expressed.

In the third section, that of "Capital," Mr. Platt says, "England has arrived at that period of a nation's history when it is essential that the capital should be as productive as possible. The people must not only be taught to save money, but to wisely use it. It is not by augmenting the capital of the country, but by rendering a greater part of that capital more active and productive than would otherwise be so, that banking has the power to increase the operations of a country. Money in the hands of the people is dead stock, which, so long as it remains unemployed, produces nothing to the individual or the nation; but, by banking, we are enabled to convert a dead and useless stock into an active and productive one; as, by the aid of the banker, it gets lent out to those who will buy materials with it to work upon, machinery to work with, stock to sell again and yield the distributor something both for himself and his country. To enable a nation to augment its capital, the capital it has must be used productively. For example, the capital employed in manufactures adds generally to the value of the materials worked upon, that of the workmen's maintenance and the master's profit; the wages advanced for the labour being generally restored in the improved value of the materials upon which the labour has been bestowed. This is called 'productive labour,' labour carrying in its finished state an extra value fully equivalent to the cost of its production. But the labour of a menial servant, on the contrary, adds to the value of nothing; his maintenance is paid for out of revenue; its cost is never restored; it is 'unproductive labour.' A man grows rich by employing a multitude of men in manufacturing; he grows poor by maintaining a multitude of menial servants. What is true of the individual is true of a nation, which, when it becomes rich, is apt to forget that capital, wealth, will soon vanish unless engaged in works that will reproduce it; the nation must become poor that employs too great a proportion of its people in 'unproductive labour.'"

Mr. Platt's chapter on "Free Labour," takes us first back to the "good old days," with its guilds and long years of apprenticeship. He then shows how time has changed the systems of commerce. That he altogether disapprove of apprenticeship, and that he is a believer in "Free Labour" the following will show. He says, "I have been an employer for over thirty years, and never had but one apprentice—the first as he was the last—experience having told me that it was unjust both ways; as, to take his labour without remuneration, or to teach what it depended upon his own diligence to acquire, was unjust to him, whilst, having bartered my freedom to discharge him if he did not work so well or do as much as if he had been a paid employé, was unjust to me. From that time I have taken all without premium, giving board and lodgings for the first three years, but, as a matter of fact, have invariably paid a salary at the end of the second year; but no engagement either side. If their conduct or work was not satisfactory, they knew they would have to go; if they disliked the trade or me, they on their part could leave at any time. All our employés are engaged the same way. No notice is given or expected, and the freedom of employer and employed is, in my opinion, the best for all parties. In the majority of trades a long apprenticeship is unnecessary; to invent requires time, but an apprentice is only taught to copy; he only needs that practice, in fact, which will give the necessary dexterity of hand and quickness of perception. At the beginning of a youth's career, the essential requisite is "diligence," and there can be no doubt that the majority will work with more attention and diligence if paid from the beginning in proportion to the work they perform; or, in those branches where loss might occur from spoiling of material, they will have to suffer for it. All that is necessary is that the youth starts, knowing he will be paid wages as soon as he can do the work for his employer that is worth being paid for. By this method the training is not only less tedious and expensive, but generally more effective."

After an exhaustive chapter on the subject of "Employés," Mr. Platt gives us his views on "Technical Education." He does not believe in the supposed paradise of "Pen and Ink," into which so

many young men rush on leaving school. "To hold our own in the struggles of life," says Mr. Platt, "it is imperative that the basis of the education of the youth of this country be technical, instead of classical. We want trades' unions to promote greater skill, and to do honour to the most skilful; not to reduce the better men to the level of the worst, and to try by combination to artificially enhance the price of labour. We must have a division of labour that leaves the man a thinking being not a mere automatic machine; we must have a something that will take the place of our 'apprenticeship' system. At present our youth are left to pick up their knowledge as best they may; there is nothing to encourage them to 'excellence' in their work; and our social views of life are based upon that cursed thing, 'false gentility'; so that instead of the young being trained to follow some mechanical or useful employment, they wish to be clerks, or to sell tape or ribbands." Two chapters on "Production," and on "Distribution," are remarkable for the vast amount of valuable information they contain. Next follows a section called "Progress," in which the author says:—"Progress, is written to show that human history is a record of progress. Progress is God's law, which we may hasten or retard, but cannot stop altogether." A brief summary is then given of the progress made in various industries, and we come to his "Concluding remarks." We cannot better state the author's object in writing this work, than by quoting his own words. "Progress" has been written to indicate in a brief space the 'giant strides' that have been made in every department of industry, commerce, and science since the last century; but its principal intent is to make men more thoughtful, more observant of what is going on around them—not satisfied to leave things alone, in the spirit of those who say, 'Fain would I glide down a gentle river, but I am carried down by a torrent,' but wisely going with the impetuous stream, and making the best of life as it is." We like too, the following sentence, which gives in a few words the key note to this book, indeed to all his books. He says "that if once we get man to view 'this life' from a loftier standpoint, make him feel that he is of that higher order of beings of whom is expected a life the result of knowledge, reflection, and a reverent desire to obey his Creator,—if we succeed in doing this, in implanting within his soul the desire to live up to a certain ideal, we have taken the surest means of making him lead a really true, religious life, based upon a knowledge of God's laws—laws as immutable as their Author; the wisdom and justice, the perfection and kindness, in those that are at present known to man, inspiring him with an unlimited faith in those that are at present unknown—a faith based on knowledge, and not on the traditions and theories of this or that theological sect."

After careful perusal of "Progress" we find the tone high and pure; the arguments practical and clear; the language concise, yet elegant; and we think it forms a fitting sequel to his other excellent works.

SHOP WINDOWS.

There has been a marked improvement of late years in the decking of shop windows in this country. The art of displaying goods with taste, so as to attract customers, is not universally understood; the French excel in it, and, indeed, in large Parisian warehouses, the shopman or shopwoman who arranges the montre, or window exhibition, is an important person. Men are said to succeed better in this department than women, just as they are alleged to have a correcter taste in the matter of dressmaking. In France, however, good taste may almost be called a national instinct, and in regard to the decorating of shop windows it generally evinces itself in the correctest manner by simplicity. The chief thing to be avoided, with a view to effect, is overstocking. In the windows of our best London shops, where the Parisian art has been acquired, goods are never displayed in excessive quantities; each separate is so placed that it shall attract notice; but tradesmen who understand their business renew their display frequently. Some have a complete change every day; at any rate, it is wise to exhibit new stock not less than once a week. People who passed by a shop day after day

are sure to be attracted by novelties. Every variety of the public taste must be catered for, and this can only be done by a continuous supply of fresh and pretty things, nor is it really more expensive to alter a window exhibition often than to show the same thing for weeks or months. Articles that have been shewn for any length of time have generally to be relegated among damaged stock and by that time people have grown so weary of seeing them that they repel rather than attract custom. The best French modistes act upon the principle that a dress or bonnet should never be exhibited more than two days running, and its position in the window ought not to be the same on the two days. Ladies who go into raptures over a bonnet the first time they see it will generally return on the morrow to have another look; but if they find it in the same place time after time their fancy for it is apt to cool. They begin to criticize the lovely thing, or what is worse, they commit every detail of it to memory, and are enabled to make a similar one for themselves at home on much cheaper terms. On the other hand, when a fine bonnet or dress is withdrawn after a couple days, the memory of it fondly lingers; it is assumed that the thing must have been sold, and regrets arise that the opportunity of buying it was not seized at once. It is surprising how popular a shop becomes with ladies when its goods are supposed to go off fast. Who has not heard a lady say, "Oh, I should not think of buying that old thing; it has been standing in the shop window for weeks."

Fine shops are no longer confined to the City and West-end. In all suburban highways splendid establishments are to be seen, which could vie with the best in the richest streets of provincial cities; but it is undeniable that in the popular highways the adornment of shop-fronts often exhibits a lamentable want of taste and shrewdness. Things are heaped up in barbaric profusion, or crowded together so clumsily that they tire one to look at. Every article is ticketed with a cheap price, but no article stands out so that full justice can be done it; and thus the recommendation of cheapness is often more suspicious than seductive. Every tradesman may not be able to afford plate-glass and gilding for his shop, but every man can afford cleanliness.

It must be confessed that, in losing much of the squalor, some of our London shops have parted with much of their originality. It is rather rare now to see a tradesman bid for custom by putting facetious bills in his window. Such things are still to be seen in the quarters frequented by seamen. Ratcliffe Highway and Deptford have their sloop shops, inviting the passer-by to come and be rigged out "so that your mother would not know you," and their eating houses offering tea "to make your hair curl," for twopence per cup. But except in the regions where Jack ashore will spend his money pretty freely, in despite of all homes established for his improvement, there is rather a depressing sameness about the pleasantries issued by tradesmen for catchpenny purposes. Ragmen exhibit most imagination, for they often break out into pictorial puffs and rhyme. The assurance that the highest possible prices are given for bones, old iron, kitchen stuff, and rags is supplemented by the intimation that "ladies and gentlemen are waited upon at their own houses;" and possibly a picture in staring colours represents the ragman counting some yellow coins, large as captain's biscuits, to a stiff-backed lady who has just surrendered a bag labelled "dripping." Occasionally, but not often, mild political satire is introduced into these work of art. In the front of an Islington rag shop Mr. Gladstone may be seen selling a barrowful of his Ministerial colleagues to a tradesman who cheerily exclaims, "Trundle 'em in. All kinds of rubbish bought here."

INTERNATIONAL ELECTRICAL EXHIBITION AT VIENNA.—It is proposed to hold, this autumn, an electrical exhibition at Vienna, the Rotunda, in the Prater, having been placed by the Austrian Government at the disposal of the influential committee which has been formed. The leading electricians of Austria, Belgium, England, France, Germany, and Holland have promised their support. A member of the Vienna committee will shortly arrive in London to make the necessary arrangements with intended English exhibitors.

THE RELATIVE COST OF ELECTRICITY AND GAS.

Will the electric light reduce or increase our gas bills? Theoretically, the electric light is cheaper. Practically, it has proved to be dearer. Theoretically, it is possible to get nearly forty times as much light out of an arc lamp from the same quantity of coal as out of a gas lamp, and from two to three times as much light out of an incandescent lamp; but, as a matter of fact, not even the most sanguine electrician ventures to hope that he will be able to contract for lighting at anything approaching to a fourth or even a third of the price now paid for gas.

The only test of the comparative cost of the two systems that is worth anything at all is the actual expenditure incurred in those places where electric lighting has been substituted for gas. The data for such a comparison are by no means so extensive as could be desired, but so far as they go they all point in one direction. Where electric lighting can be undertaken under favourable conditions and on an extensive scale it can compete favourably with gas, both as to quality and price; but in the great majority of cases where the electric light is applied tentatively and provisionally, or on a small scale, it is dearer than gas. There are some notable exceptions to this rule, the chief of which is that supplied by the sixteen Brush arc lamps which have replaced gas at South Kensington Museum. The gas cost £560 per annum, whereas, after making all allowances for wear and tear, interest on capital expended, and depreciations of stock, the annual cost of the electric light is only £250. What can be done at South Kensington may be repeated elsewhere; but hitherto, so far as we have seen, the success achieved at the Museum has not been rivalled elsewhere. When the Jablochhoff lamp was first employed in London to light the Holborn Viaduct it cost £10 per fourteen hours, against 27s. paid for the gas which is displaced. The candle-power generated was seven times that of gas, but it was seven times as dear, and it was shortly discontinued. That, however, was one of the earliest and most unsatisfactory of installations. A much better test is afforded by the experience of last year in the City of London. Two districts lighted by the Brush and Siemens companies afford a characteristic contrast in their results. Thirty-three Brush lamps giving a light of 66,000 candles at a cost of £660 per annum superseded 156 gas lamps, whose combined candle power was only 2,500 which had previously lit the districts at a cost of £690 per annum. In the other district the Siemens company substituted thirty-four electric lamps of 38,400 candle power, at a cost of £2,270, for gas which had only cost £612. No doubt the exceptionally high cost of the Siemens installation can be explained by exceptional circumstance; but the fact remains, not only that Messrs. Siemens found it impossible in 1881 to light up a district with electricity at less than three and a half times the price of the gas previously consumed, but that this year they refused to renew their contract unless the sum was raised to £3,600, or nearly six times the cost of gas. The Brush company also raised their prices, but not to an equal extent. Their new contract secures them £800 for the electric light in place of the £690 previously paid to the gas companies. The light is no doubt better, but it certainly effects no saving. The experience of New York confirms that of the City. Last year forty-three Brush arc lamps replaced 328 gas lamps, and, as in the first year of No. 1 district in the City, the change effected a slight economy. The electric light cost New York £1,480, as against £1,505 previously paid for gas. This year, however, the electric light people have doubled their prices. Instead of supplying their lamps at thirty-five cents per night, their new contract stipulates that the price shall be thirty-five pence per night for each of their sixty-one lamps—a change which will make electric lighting twice as dear as gas. The United States Electric Lighting Company, which has contracted to supply sixty-five lamps has also insisted upon a similar price. Gas in New York is supplied to the street lamps at an average of a dollar per 1,000 cubic feet, whereas in London it costs less than three shillings; so that the cost of the electric lighting of New York is equivalent to a consumption of gas at eight shillings per 1,000 feet. It is somewhat difficult to compare the cost of the rival lights on the Embankment, where fifty Jabloch-

koff lamps cost the Metropolitan Board of Works 10s. 5d. per hour; or at the railway stations, where the charge per lamp varies from 6½d. per hour at Cannon-street to 2½d. at Charing-cross. At Cannon-street, it is claimed by the gas companies, eight electric lights, costing 4s. 4d. per hour, have replaced nine gas lamps which only cost 1s. 6d.; but this of cost, makes no allowance for the superior brilliancy of the former. Paddington has declined to have anything to do with the electric light, in the belief that it would cost £788 per annum to replace gas lamps which are now supplied at a cost of £376. Outside London the experience of large towns has been much the same. In Liverpool the electric light came to an unlucky end after £15,000 had been spent in useless experiments. In Edinburgh the lighting of Princes-street by electricity was abandoned after it was ascertained that it cost £1,100, as against £203 paid for the ordinary gas lamps and £800 for Bray's improved burners. In Dublin the experiment was more satisfactory; fifteen Brush lamps of 2,000 candle power were pitted against fifteen of Bray's of 400 candles each, with the result that the former cost £403 against £430 paid for the latter. At Eastbourne electricity has entailed an extra cost of £231 per annum on the local exchequer. At Paris the cost of the Jablochhoff light is two and a half times as much as that of the gas which is displaced. At Albans, in America, forty-eight gas lamps costing £316 per annum have been replaced by electric lights costing £1,066.

The facts about the incandescent system are few. In America the result of an inquiry into the thirty or forty establishments using the Edison light is said to have proved that, with gas at 8s. per thousand feet, the incandescent lamp effects a considerable saving when the system is worked on a large scale. When there are only fifteen lamps the proportionate cost to that of gas is as 11 is to 15. When sixty are used it costs only half the price of gas, and when there are 250 lights, the cost of electric lighting is to that of gas as 100 is to 250. Whether it will be possible to obtain similar results in this country, with gas ruling at from 2s. to 4s. a thousand feet, is, to say the least, doubtful. In lighting the Pullman express to Brighton, a great saving has been effected by electricity; but that is because electricity can be turned off and on at a moment's notice. On the whole, although the incandescent light may supersede gas, it has not yet proved that it can undersell it. The Siemens improved gas-burner which lights up part of Holborn is more brilliant than the Edison incandescent light, and if the truth were known it would probably be found that it was much cheaper also. With gas under 3s. per thousand feet and improved burners, the electric light will have hard work to make the rapid headway so confidently expected by its friends.

HANDSOME AND WELL-MADE STANDS.

This is pre-eminently an æsthetic age. At a glance there would seem to be no earthly connection between the heaps of pig-iron in the foundries of sewing machine factories and forms of beauty and æsthetic taste; but there is a very close and immediate connection, for the unsightly heaps have but to go through the process of melting and pouring into a mould to reappear in numberless shapes combining elegance and strength. The design, or pattern, rather, of the stand of the sewing machine has much to do with the beauty of the machine, and the patterns are got up regardless of expense, pattern-makers being employed who are especially noted for their skill in designing. It requires the intuitive skill of the artist to transform the rugged mass into an article so combining use and ornament as to please the eye and excite the admiration, while at the same time perfectly filling the purpose for which it is intended. The moulder has also his share of the work and care; but it is of great importance to him that the pattern should be properly made; and not only to him, but to those who finish up the work. In order to secure this, the stand pattern should be made so that it will leave the sand without trouble; it should come away freely. After leaving the moulder, the stands go through the process of finishing, japanning, ornamentation and fitting together in their several parts, forming a symmetrical and substantial whole.



OBTAINING A SEWING MACHINE BY A FORGED CHEQUE.

At the Mansion House on the 17th ult., Thomas Hunton was charged with forgery. On or about the 6th April last a person purchased from Messrs. Wheeler and Wilson, sewing machine manufacturers, of Queen Victoria-street, a machine, value £7 17s. He wrote out a cheque for the amount upon the London and South-Western Bank in the name of "W. Hammond," and then took the sewing machine away with him in a trap. The cheque was paid in the ordinary course of business, but was returned marked "Forged cheque."

Mr. Hammond, a builder, carrying on business in Battersea, in whose service the prisoner had been, proved that the cheque was not signed by him nor by his authority.

A further case was gone into, in which the prisoner was alleged to have purchased a quantity of furniture, value £31 18s., from a dealer named Siegenberg, giving in payment a cheque for the amount on the Battersea branch of the same bank, which purported to be signed by another firm of builders in whose employment he had been. This cheque was also proved to be a forgery, and it was stated that while in the service of the firm the prisoner had been engaged at work upon the premises of the Battersea branch of the London and South-Western Bank.

Evidence was given, showing that on the 24th April the prisoner called upon a fine art dealer, named Heyman, with reference to buying a clock, representing himself as Mr. Hammond, a builder, of Battersea. He brought the clock and handed in payment a cheque for £15. It was further shown that he had obtained some bedding by similar means.

Detective Downs stated that on the 9th ult., he arrested the prisoner in Pimlico. He said there was some mistake. He was searched, and a cheque book on the London and South-Western Bank was found on him. Witness asked him how he accounted for its possession, as he believed the cheque-book was stolen while he was at work at the bank. The prisoner replied that he should give no further trouble, but plead guilty to the charge. At the station he said he did not mind for himself, but he had been a scamp to his wife. At his lodgings were found the sewing machine and other property obtained by means of the forged cheques.

The prisoner was remanded.

THE EMPLOYERS' LIABILITY ACT.

Although retail traders are, fortunately for themselves, seldom affected by this statute, which deals with the rights of workmen who may be injured in mills, factories, and the like, it is still an Act of such general importance as to be of interest to every reader. This is especially so with regard to cases decided under the Act which affect principles of universal application to the question of Employer's Liability. The recent decision of the Judge of the Dudley County Court is a good instance of what we mean. There the plaintiff was a widow, and she brought her action to recover compensation for the death of her husband, through the negligence, as she alleged, of a foreman in the employment of the defendant, a colliery owner. No attempt was made to deny that there had been negligence but the defence was that the deceased man had by contract with the defendant agreed not to take advantage of the statute, or, as it is commonly said, had contracted himself out of the Act. The County Court Judge, however, held that this defence could not be maintained, and he seems to have done so upon two

grounds. Finally, he decided that the deceased man had no power to contract himself out of the Act, and secondly, he was of opinion that he had no right to bargain away his wife's claim to compensation as his widow. It is very doubtful if these rulings would be supported by the High Court upon appeal, and most assuredly they will do more harm than good to those who are most concerned. In this case the deceased man had been a member of a benefit club, to which the defendant as his employer had subscribed. This subscription was in fact the consideration for the workman's contract not to use the statute when injured. It seems hardly fair that after he has obtained these benefits upon the basis of this agreement he should be able to round and say that it was void from the beginning, and not legally binding.

If every such contract between master and man is to be held invalid, then there must be an end to all those excellent schemes for mutual benefits which, in the form of clubs have grown so common. It must not be forgotten that by subscribing to these societies workmen obtain sick and other pay however they might have been injured, and not alone in cases for which their employers would be legally liable. This is obviously a great advantage to the workman; for it is but a small percentage of accidents that can be traced to the negligence of the employer, and for which he can be made responsible in a court of law. In all other cases of ordinary accidents, workmen, unless belonging to clubs, would be unable to obtain any assistance during the time they were laid up from injury. But unless the employer is at the same time to be protected against actions that may be brought under the statute, any agreement by which he contributed to such a benefit society would obviously be but a one-sided affair. His contributions would seem, indeed, to be a very reasonable consideration for the workman's contract not to avail himself of the Act; and yet this point does not seem to have had much weight with the Judge of the Dudley County Court. His decision, that the deceased man could not lawfully contract himself out of the Act, seems indeed to prove too much. For if this be so then the same principle would apply to every similar statute; and if to a statute, then also to the common law of the land; the result being that any contract by which one person foregoes a right of action he has against another, even though upon valuable consideration, would be void, which, as the old books upon Euclid say is absurd. It may be, however, that the County Court Judge meant only to decide that the deceased had no right to enter into a contract by which his wife's claim to compensation in the event of his death from an accident caused by negligence could be taken away.

Upon this head there is, of course, a great deal more to be said, as an action brought by a widow or child of any one killed in an accident is only maintainable by virtue of an Act passed by and named after Lord Campbell. It may therefore be said that such a right of action so given to third parties upon the happening of a certain contingency cannot be contracted away, or, in other words, that a man cannot deprive others who come after him of their legal claims to compensation that only arise upon and after his death. But even in this limited contention there is the difficulty that if the deceased during his life has received consideration for his promise, it is hard that those from whom that consideration has moved should be deprived of the advantage accruing. We must, however, leave this legal point to be determined by the High Court, only observing that it is one of great importance to both employers and employed in the practical working out of the new statute. It is already evident that the Act has disappointed the working men, in whose favour it was passed, while it has too often caused bad feeling between employers and employed. In truth, it was a compromise, and one little understood by the public generally. Workmen thought that after it became law they would in all cases have a right of action for injuries received when they were at work. Many of them still seem to think so, although, it must be obvious that such a rule of law must ruin every large employer of labour.

There is a Bill now before the House of Commons which proposes to enact that no contract not to use the contract shall be valid,

which plainly shows that those who framed this Bill do not consider to be the law; and, indeed, such a view was never mentioned until started the other day by the County Court Judge at Dudley. Another proposal of this Bill is less open to objection, and may, in fact, be considered well worthy of support by all who wish for fair play. At present every workman injured must within six weeks after the accident give notice in writing to his employer, stating the date and cause of the injury, and if he does not do so, from any reason whatever, then he cannot possibly maintain any action for compensation. Several cases have recently occurred in which, from such cause or another, often either illness or ignorance, this notice has not been given within the statutory period, and upon objections taken by the defendants the plaintiffs have been nonsuited. In order to remedy this injustice, it is suggested that the Judge at the trial should have discretionary power to dispense with this notice of action, and under certain limitations this would only be fair to the men. It must, however, be remembered that this notice is of much importance to employers, as it gives them warning that they will be held liable for the accident, and so enable them to get and keep the evidence necessary for their defence. But, all the same, the want of such notice should not be an absolute bar against which there is no relief, and upon this point the amending Bill makes out a good case. whatever may be said of the proposal to avoid all contracts evading the statute.

HINTS TO REPAIRERS.

Johnny, the apprentice, has a Wilcox and Gibbs machine on his bench for repairs. He says it will not feed properly—that is, the feed moves, but the stitch is always of one length, and upon moving the stitch-regulator it has no control over the stitch and will neither lengthen nor shorten it. After calling his attention to the feed surface washer and its effect when worn, he was able to correct that part of the machine. The feed surface washer is a piece of leather forced in the feed bar which moves against the cam. This simple little piece of leather when worn will cause the trouble that Johnny experienced.

They are easily made of sole leather. It is best to make them out of good hard leather and to cut them large enough, so that they must be forced in.

Johnny says that other troubles beset him; such as breaking the thread; the hook catching two loops at a time; skipping stitches, &c. He must first examine the hook to see that it works close up to the needle, for the hook is liable to move out from the needle by the set screw becoming loose. In such cases move the hook back in its place as near the needle as possible, using a large needle to set the hook.

If you use a small needle to set the hook, when a large needle is put in it will strike the hook.

Study the use of the little wire on the side of the needle bar which is connected with a spring near the top of the frame, the thread passing through it on its way to the needle.

This arrangement is the friction-pad and spring; it is so arranged with the needle bar to open and close and to hold the thread on a stretch. It does the same as the take-up on any other machine. It keeps the thread tight until the point of the needle is about to enter the goods, then the slack is given by the opening of the spring of the friction-pad.

If the wire has become bent or worn from the needle bar the spring will not move; if such is the case bend the wire until it presses against the flat side of the bar. If the thread breaks, if the tension is not too light or too loose, or if the needle is not too fine for the thread, then the cause lies in the needle-plate being rough or cut in saw edges, or the hook is rough, or dull pointed.

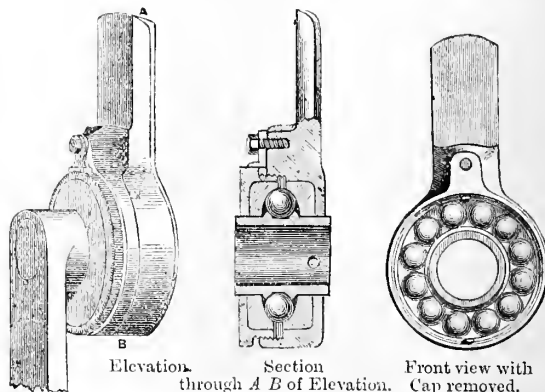
In dressing up the hook use No. 00 emery cloth and finish with a burnisher.

The Wilcox and Gibbs is very easily taken down and put together, the only part which requires care and accuracy is the ball joint, which regulates the needle arm. If at any time you are compelled to take off the ball joint, gauge the needle bar, and when you put back the ball see that the needle corresponds to the gauge; if it does not, turn the ball until it does.—*Sewing Machine News*.

MR. BOWN'S MANUFACTURES.

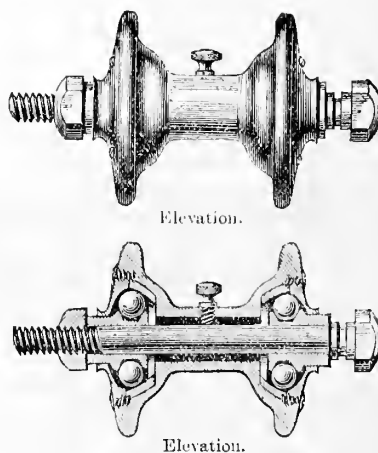
From Mr. Bown's factory in Summer-lane, Birmingham, are despatched not only sewing machine, but every description of bicycle fittings. No one in the trade has had so long experience in the manufacture of such articles as Mr. Bown; no articles are sent out giving proof of better workmanship. There are none in the bicycle trade, at least, in England, who have not heard of

FRONT WHEEL BEARINGS.



Bown's Patent "Aeolus" adjustable ball bearings. Indeed, there is scarcely a bicycle of any quality at all now made without them. All the leading races that have been run, have been on machines with the "Aeolus" bearings, and Mr. Bown has had testimonials; sufficient to fill our waste-paper basket several times over. Her Majesty herself owns a tricycle with "Aeolus" bearings. They are the most vital part of the bicycle, and when we say they are approved by every amateur and professional rider, the reader will

BACK WHEEL BEARINGS.



see that the Bicycle world are greatly indebted to Mr. Bown for his clever invention. The "Aeolus" are dust proof, they facilitate speed, reduce friction to a minimum, and economise power. In addition to this bearing Mr. Bown makes heads, cranks, pedals, hubs, flanges, spokes, rims, hollow forks, backbones, bells, whistles, horn handles, and in fact everything connected with a bicycle or tricycle. Bicycle manufacturers and repairers will find that they can obtain first hand every article they require from 308, Summer-lane, Birmingham.

SECOND ANNUAL EXHIBITION OF DOMESTIC LABOUR-SAVING APPLIANCES

AND

All Articles intended for the promotion of Domestic Thrift,
AT THE
AGRICULTURAL HALL, LONDON,

AUGUST 24, 25, 26, 28, 29, 30, 31; SEPTEMBER 1, 2, 4, 5, 6, 7, 1882.

This SECOND ANNUAL EXHIBITION OF DOMESTIC LABOUR-SAVING APPLIANCES will be conducted on the same lines as that which was held at the Agricultural Hall for three weeks in March, 1881. It was felt then, although the Exhibition was in every sense a most successful one, yet that the Autumn would, on the whole, be a better time for its successor. The Hall has, accordingly, been secured for the end of August and the commencement of September, the Exhibition remaining open for 13 days.

Large contracts have been entered into by the management for the purpose of its being very extensively advertised, both in London and the provinces, and it is believed, in consequence of the great improvements that have been made and the great discoveries that have taken place in the departments of Sanitary and Household Economy since the last Exhibition closed, that the one now proposed to be held will be filled with exhibits of more than usual interest.

Applications for space will be dealt with in the order in which they are received.

CHARLES MESSENT, General Manager.

This Exhibition will comprise all Appliances for Economising Domestic Labour, for the promotion of Domestic Thrift, and enhancing the hygienic comfort and pleasure of the Household, including all the latest inventions and novelties for Lighting, Warming, Ventilating, Cooking, Cleaning, Washing, Sewing, Gardening, and Recreation; as, for example—

Chandeliers, Lamps, Stoves, Grates and Tubular Warming arrangements.

Water-closets, Sanitary Appliances, Disinfectants, Electric and Pneumatic Bells, Venetian Blinds, Encaustic Tiles, Ventilators, &c.

Mincing and Sausage-making Machinery, Filters, Dairy Utensils, Kitchen Ranges, Gas and Oil Cooking Stoves, &c., Mineral and Vegetable Oils.

Washing, Wringing, Mangling, Boot and Knife Cleaning Machinery, Emery Powders, Soap Extracts, Blackings, Furniture and other Polishes.

Toilet requisites, Perfumery, Brushes, Soaps, Hair Washes, &c.

Sewing, Knitting, and Kilting Machinery, Cottons, Threads, Silks, Needles, &c.

Furniture, Carpets, Kamptulicon, Corticine, Oilcloths, &c.

Conservatory, Green House and Garden Appliances, Lawn Mowers, Garden Seats, Garden Hose, &c.

Stable Fittings and Appliances, Harness, Horse-Groomers, Clippers, Medicines, &c.

Musical Instruments, Pianofortes, Organs, Musical Boxes, &c.

Outdoor and Indoor Games—Cricket, Croquet, Lawn Tennis, Table Billiards, Puzzles, &c.

Carriages, Bicycles, Tricycles, Perambulators, &c.

Applications for Space, Plans, and general information may be obtained from the Secretary, **THOMAS BROOKS, 20, Wormwood St., London, E.C.**

Price 6d. per Dozen.

HIRE AGREEMENT FORMS,

Drafted by Counsel,

Especially for the "Journal of Domestic Appliances."

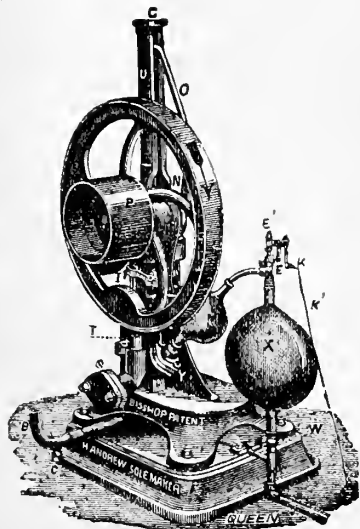
AGREEMENT FORMS, for the letting out on Hire of Sewing Machines, Washing Machines, Bicycles, Pianos, Gas Stoves, and other Domestic Appliances, can be obtained at 6d. per doz., post free from the office of the *Journal of Domestic Appliances*, 20, Wormwood Street, London.

THE "BISSCHOP" GAS ENGINE.

Piston and Valve need no Lubricator. Will start at a moment's notice.

POWER.	PRICE.
One Man	£25 0
One-and-a-half Man	30 0
Two Man	55 0
Four Man	60 0

NO WATER WANTED.



NO SEPARATE METER

J. E. H. ANDREW,
18. Waterloo Road. STOCKPORT

THOMAS WARWICK,

Manufacturer of Bicycle Materials of every description.

Sole Maker of WOOLLEY'S PATENT SPRING SADDLES

PRICES.

No. 1, with Flexible Sides	6/- each.
2, with Plain Saddle	3 6 "
3, with Flexible Sides for Tricycles	7 6 "
4, do. do. with Roll at Back	10 6 "

These Saddles for 1882, have several very important improvements, and are acknowledged to be **the most comfortable seat** for Bicycle or Tricycle, that are in the market. They afford great ease to the rider when riding over rough and bad roads, and on long journeys. The Seat is soft, and the edges being flexible, they give to the weight of the rider, and do not chafe the same as hard edges of ordinary saddles.

All kinds of Stampings, Rims, Spokes, Backbones, Hollow Forks, Hubs, Bearings, Pedals, Springs, Lubricators, Oil Cans, Saddles and Bags, Bells, Lamps, and all parts finished, and in the rough.

Price Lists and Testimonials free from the Works,

**ALMA ST. ASTON NEW TOWN,
BIRMINGHAM.**

WANTED by a House using Thomas and other Machines, a steady **MECHANIC**, thoroughly competent to keep the Machines in order, and accustomed to Factory work. Apply to Hope-street Factory, Belfast.

MANAGER Wanted for a Wholesale and Retail Manufacturing Company, Salary £150 and commission, must have had experience in business, similar to Sewing Machine business. Highest testimonials imperative. Address stating previous engagements and references.—P. C., at C. H. May & Co.'s General Advertising Offices, 78, Gracechurch-street.

JOURNAL OF DOMESTIC APPLIANCES

AND

Sewing Machine Gazette.

MOST of our readers will remember that in the month of March last year, an Exhibition was held at the Agricultural Hall, of domestic labour saving appliances. That spacious building was well filled with exhibits, ranging from the sewing machine, the king of domestic labour saving appliances, to simple minor articles for culinary use. Perhaps there were no astounding novelties exhibited, simply because there were none invented, but the exhibits were nevertheless sufficiently attractive to fill the Hall with crowds of ladies anxious to learn any wrinkle, or purchase any article that would lighten their household labour. One could not walk the streets of London without seeing on every wall, omnibus and tram, attractive announcements of the "Domestic Show." Such advertisements as "Sewing Machines Extraordinary," "Washing by Steam," "Thrift, Thrift," were in glaring red letters before the eyes of everyone. The result of it all was, success to everyone concerned, to promoters and exhibitors

It will therefore be with pleasure that the trade will see in another column the announcement of a second Domestic Labour Saving Appliance Exhibition, to be held at the Agricultural Hall, the last week in August and the first in September. Exhibitions mean some hard work in getting goods ready and a little outlay of money for space, but if the firms exhibiting have good salesmen they are sure of many profitable orders. Some manufacturers when showing their goods often leave them with no attendant at all, or perhaps, one who is quite unqualified for a salesman. They think they will rely on it as an advertisement, and therefore only put a porter or boy to give away bills. Sometimes it answers, and orders may be traced to it weeks afterwards; but as a rule it is best to have a good salesman—and the sharper the better. Before the next exhibition opens and since the closing of the last, eighteen months will have elapsed—not long perhaps many may say—but in these times when inventions follow in such quick succession it is sufficiently long to warrant us in looking for some wonderful novelties at the next Exhibition of Domestic Labour Saving Appliances.

THE manufacture of sewing machines is brisk north of the Tweed. THE SINGER MANUFACTURING COMPANY and THE HOWE MACHINE COMPANY LIMITED, are turning out a great quantity of machines from their factories at Glasgow. During one week in the past month, sewing machines to the value of £12,815 have been despatched from the Clyde. Of this sum £6,675 worth was sent to Mediterranean ports, £730 to Sweden, £1,577 to France, £1,320 to Australia, and £1,085 to Canada.

A formal beginning has been made in preparing the ground for the erection of the new works of the SINGER MANUFACTURING CO.

A few months since an enterprising American sewing machine canvasser, entered the domains of an old Indian chief and sold him a machine. The old man watched the working carefully, and when he was satisfied as to what it would do, he deliberately arose and kicked his wife out of the door, saying "neod squaw no me."

We notice that MESSRS. BRADBURY AND CO., are opening a new dépôt in Kingsland-road, E.

Where are the manufacturers of English Sewing Machine Shuttles? We hear that THE BILLINGS AND SPENCER COMPANY, of Hartford, Conn., U.S.A., have received many orders for shuttles from English Sewing Machine manufacturers; Messrs. JONES and Co., of Guide Bridge, have recently given them an order for seven thousand shuttles.

THE DAVIS SEWING MACHINE COMPANY have already secured their space at the Domestic Labour-Saving Appliances Exhibition in August next.

THE WEED SEWING MACHINE WORKS.—The Manufactory of the Weed Sewing Machine Company, covers eight acres of floorage. Numerous additions have been made, and still others are in contemplation—necessitated by the increased business since the production of the Hartford machine.

CORRESPONDENCE.

To the Editor of the "Journal of Domestic Appliances and Sewing Machine Gazette."

172, Water Lane, St. John's, N.F.

SIR,—Will you please to send me the address of T. Paice and Son, sewing machine needle manufacturers.—Yours respectfully,
W. F. SMITH.

[If you address to Redditch, England, you will find them.—
EDITOR, J. D. A. & S. M. G.]

To the Editor of the "Journal of Domestic Appliances and Sewing Machine Gazette."

22, Hargate Lane, West Bromwich,

May 26th, 1882.

DEAR SIR.—Will you kindly give me, through the medium of your correspondence, the name of any importer of, dealer in, or agent for the "Johnson Ruffler," in this country, they are made in America to fit all makes of sewing machines, but I have not come across them in this country. If you can't oblige me in this, will you please give me the makers address in America, and oblige
Yours respectfully

JAMES ALLEN.

[We do not know of any agent in this country. The address of the Johnstone Ruffler Company, is Ottawa Iowa.]

IMPROVEMENTS IN APPARATUS FOR WASHING CLOTHES.

Thomas West Walker, of Hanley has obtained "provisional protection" for his invention, which relates to the improvements in the construction of what are commonly known as "self acting washing machines" or portable circulating clothes boilers, and has for its object the rendering the apparatus cheaper and more cleanly.

Hitherto this class of washing apparatus has been constructed of sheet metal, each component part namely, the bottom, top, or knob and tube requiring to be separately formed and permanently united to each other by soldering or brazing. The soldering or brazing is found in practice to be liable to become worn and detached, hereby rendering the entire apparatus useless. Moreover the separate construction and formation of the parts of sheet metal, and their subsequent uniting together by solder renders the manufacture more costly, whilst the apparatus is less cleanly, and cannot be taken asunder for the purpose of thoroughly cleaning each part separately.

According to this invention he is enabled greatly to simplify and cheapen the manufacture by moulding or if preferred shaping on the potters' wheel the bottom chamber or that part which rests upon the hottest portion of the boiler or copper, and the top or cap, or that part of apparatus by or through which the ascending water escapes, and as these parts can be thus manufactured of glazed porcelain, stoneware, or other like fictile and more cleanly material, they can be united to the tube by ground joints instead of solder, and be consequently easily taken asunder for cleaning, and any separate part can be readily replaced and put together in case of fracture without involving loss of the entire apparatus. The rising tube or pipe itself which connects the top and bottom parts together is constructed of either metal or of earthenware, or porcelain, and can be made telescopic or sliding, thus enabling the apparatus to be adapted to any depth of boiler or copper.

IMPROVEMENTS IN SEWING MACHINES.

"Provisional Protection" has been obtained by Mr. Alfred J. Boulton, on behalf of Mr. J. Jarlan, of Tonlouse, for the above.

This invention is particular applicable to sewing machines with an underneath feed motion, and consists in special forms of or attachments to the "presser feet," the object being to sew on without preliminary basting the cords or heads, known in France as "passe-pois," and used especially for military trousers.

Several different forms of these presser feet may be used, and they are all made by preference of metal. One resembles an ordinary presser foot, but is curved on its face and serves for placing the passe poil on the cloth, and maintaining it at an even distance from the seam which is underneath the presser foot. The next is similar, but is provided or formed with two arms or teeth of different length, and serves for making the second stitches of the passe poil, said stitches being kept at the same distance by one arm of the presser foot, sliding along the edge of the passe poil, which is between to layers of cloth.

No. 2. This serves for sewing "stripes" upon artillery trowsers and by its use the inside of a stripe can be sewn upon trowsers without the necessity of basting, the edge of the material being laid against a groove in the guide. It consists of a divided plate with shoulders at the required parts, and a groove or channel through which the cloth slides.

No. 3 is for putting passe poils upon tunics and capes without basting, and consists of a plate or guide, upon which are mounted two sliding pieces, securable by binding screws, so as to be adjustable for the proper width, the presser foot having a groove or tube at its lower end; it serves for making the first seam of the passe poil.

No. 4. is very similar to No. 1, and serves to regulate the sewing on of the passe poils, which without it would be laid on irregularly.

No. 5 is for laying down without basting the turned down edge of the stripes. It is formed by two plates overlapping one another in half their thickness, having at about their centre a groove or channel with ends turned over, so that by moving the plates one upon the other (binding screws are provided for fixing them) the size of the groove may be altered to suit circumstances. The grooves serve to keep the cloth stretched in direction of its width.

In No. 6 the presser foot carries a guide for sewing the outside seam of trowser stripes. A movable piece fixed by a binding screw is held at a distance from the groove in the presser foot, equal to the width of the stripe when the folds are "laid down."

No. 7 serves for directly sewing on the inner edge of the stripe coming from No. 6. Two little screws in the underside of the presser foot may be loosened for the purpose of adjusting the groove of the presser foot at such distance from the needle throat that the stitches made shall correspond with the stitches made by No. 6. A special feature of this is that it can be used for making raised seams upon ordinary garments.

No. 8 is really an improved form of guide No. 2; the latter only allows stripes of predetermined width to be sewn on, whereas No. 8 is adjustable, the sliding and cross pieces being movable and secured by binding screws.

THE PRINCESS'S WALDECK.

The latest among the hand lock stitch sewing machines introduced to the trade is the Princess Waldeck, a light running machine, by Mr. C. H. Senauer, the energetic and esteemed manager of the Herberling Running-Stitch Sewing Machine Company, 46, Cannon-street, London, E.C. The Princess Waldeck is a beautifully finished machine, with all the most recent improvements; it is handsomely enamelled and all bright parts strongly nickel-plated. A good supply of easily worked attachments is supplied with each machine. The driving wheel being nickel-plated adds greatly to the appearance of the machine, which is also supplied with automatic winder for the bobbins; the shuttle is large and holds 50 yards of thread. We noticed that the price is very reasonable, and believe it to be just the machine to suit good and pushing agents, it having so many selling points.

IMPROVEMENT IN VELOCIPEDES.

Mr. John Humpage of Brunswick street, Bristol, has taken out "Provisional Protection" for "improvements in Velocipedes." He thus describes his invention. He says:—I construct the wheels of bicycles and other velocipedes in the following manner:—The steel wire of which the spokes are constructed is in section not circular, but of the pointed oval form made of two arcs of a circle. The felloe has for each spoke a round hole through it to admit the head of the spoke. From this hole there is a short slot corresponding to the thickness of the spoke, and at the end of the slot, there is a countersunk recess on the outside of the felloe. The steel wire spoke has a riveted head on each end. One head passes through the hole in the felloe and along the slot into the countersunk hole, and thus the spokes can be put in or taken out without removing the tyre. The hub of each wheel is formed in two parts, each part containing half the number of the wheel. Each part has on the outside a slot for each spoke, corresponding to the width of the spokes. The two parts of the hub are placed closed together for the spokes to be put in, and the slots and heads are covered with collars.

To tighten the spokes and make the wheel true the two halves of the hub are separated. For this purpose the central spindle of the wheel is formed of a cylindrical steel tube, with a fixed feather key for each part of the hub.

In the boss of each part of the hub there is a toothed lever with a spring between the lever and the boss to keep the teeth in gear with those on the spindle.

The spring to support the saddle or seat is made double, having a knuckle joint at the back, the ends being free to vibrate.

I steer bicycles by means of the back wheel in the following manner:—The steering handle is connected to an endless chain which passes over pulleys, and downwards through the two vertical side standards of the fork, which are made hollow for the purpose. At the bottom of the standards, that is, at the centre of the driving wheel, the two branches of the endless chain pass over two pulleys and then through two horizontal side tubes which connect the fork to the bottom of the backbone. The endless chain then passes round a chain wheel on the vertical spindle which carries the hind wheel. Thus when the handle is turned its motion is communicated by the chain to the hind wheel.

The fact of the driving wheel not being required to move sideways allows a rigid connection to be made between the extremities of the fork and backbone of the machine by means of the tubes on either side.

The machine is thus much steadier and more comfortable for the rider.

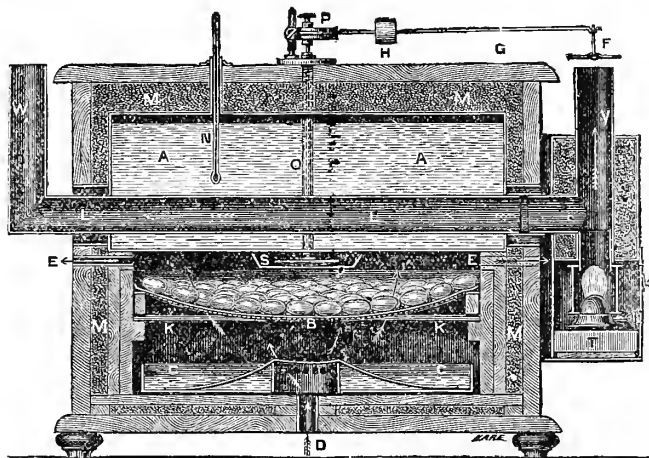
CANVASSING.

An American citizen being pestered the other day by seven young men, agents for different sewing machine companies, he told them that he heard his wife say she must have a machine, and if they would call at his house about 9 a.m., the next day she would be ready to receive them. Of course the seven agents with their machines, their countenances all wreathed in smiles, were promptly at the door at the hour named. They walked in and set their machines down, and smiled serenely. The lady exclaimed, "Sewing machine men, what want ye here?" An agent stepped forward and said: "Madame, our sewing machines have the only digestible head in the world." Another said, "This machine has no running gear, and all you have got to do is to throw the thread and cloth on the machine, and go into the kitchen and whale the children." The lady began to get excited, when the other five spoke in a wavering voice, "Any one buying one of our machines is entitled to a beautiful chromo." This was too much. She grabbed the mop, and yelled at the top of her voice, "If you don't slide out of this house in a minute there'll be the darndest meanest looking lot of ehromos laying around on this floor ever seen in Keeseville." The agents all "slid!"

THE CHAMPION INCUBATOR.

One of the best Incubator's is that called the Champion, and manufactured by the Sunanto, Pneumatic Lighting and Heating Co., Limited, 115, Southwark-street, S.E. It can be worked with

surface, and so produce a very effective hot water boiler for the purpose of this Invention. Instead of placing the boiler immediately under the convoluted chamber before mentioned, it may be placed in the basement of a house and connected to it by a flow and



THE CHAMPION INCUBATOR.

coal or air, gas or paraffin oil, and will maintain an equal temperature, regardless of size of flame or external circumstances. It is well made of pine wood, dovetailed, and all mountings are of lacquered brass.

IMPROVEMENTS IN GAS HEATING STOVES, &c.

Mr. James Wadsworth, of Manchester, has obtained Provisional Protection "Improvements in Gas Heating Stoves, which improvements are also partly applicable to heating apparatus generally, and to the prevention of kitchen boiler explosions."

The object of this Invention is (firstly), the construction of a gas heating stove which shall heat a large quantity of air to a moderate temperature, and consists in employing one or more ordinary illuminating burners situated in the lowest part of the stove. The products of combustion from the burners are received into a vertical conical hood which rises some distance into the stove. This hood is surrounded by a head or terminal, which is a special feature in this Invention, constructed with a series of passages and directions in such manner that the main rising current from the burners shall induce a large body of air to enter and mingle with such main current, and which is finally discharged, preferably in a horizontal direction, through one or more outlets of conical form.

Secondly. This Invention refers to a heating stove in which the products of combustion are collected and discharged into a chimney, and prevented entering the apartment in which the stove is burning, and consists in employing the same arrangement of burner with receiving hood; but the hood is carried up a short distance inside a receiver formed of a number of convolutions, and presenting a large surface to the heated products of combustion, and also to the external air. This convoluted chamber is surrounded with an outer casing which assists the circulation of the air through the air convolutions. The products of combustion are taken off by a suitable pipe near the bottom of the chamber. This modification of the Invention may be arranged as a disposer, and be filled with hot water kept heated by small a boiler constructed in the lower part of convoluted chamber. The boiler consists of an outer water casing and an inner water pocket depending from the top of the boiler. A dividing plate extends up between these water surfaces, so as to compel the products of combustion to pass over the entire

return pipe, or, by preference, with a special pipe which is constructed as follows:—take a large outer pipe and insert a smaller pipe within it. The inside pipe is perforated at intervals so as to establish a connection between the inside of each pipe. A pipe so constructed serves all the purposes of the usual flow and return pipe, and possesses the additional feature that if frozen up immediately the fire is lighted the ice within it naturally thaws along its length as the heat increases, in virtue of the flow returning at the frozen part through the perforations in the inner pipe. It is obvious that this part of the Invention is applicable to all classes of domestic boilers or other purpose when the heating pipes are liable to be frozen and occasion risk of explosion.

BICYCLE SPRINGS AND SADDLE COMBINED.

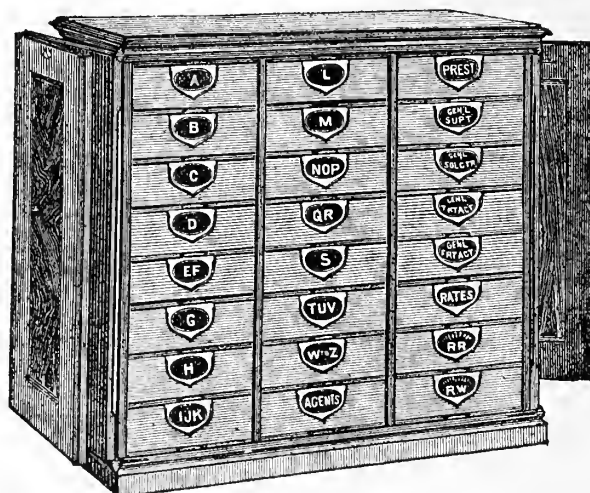
Provisional protection has been obtained by John Forrest Walters, of 7, Queen's-road, Bayswater, London, W., for Improvements in Bicycle Springs and Saddle Combined.

The object of this invention is a special construction or arrangement of bicycle springs and saddle combined, whereby a rigid yet sufficiently elastic or yielding seat is produced capable of adjustment to suit the height above the "backbone," and also its distance from the fork. For the purpose of this invention he fits circular or other shaped india rubber blocks in metal rings or cases at the end of bars or rods which are pivoted at a suitable distance from the ends, so that the bars may be raised or lowered at the ends and be fixed by a tightening nut. The lower set of rubber blocks are provided with clips or attachments to enable the saddle to be fixed to the backbone, the upper set having the saddle seat attached. He prefers that the rubber blocks and their exterior cases be of round shape, so that they may be easily shifted round to bring fresh surfaces into contact when desired, the pins on which they are mounted having a tendency to embed themselves therein from the weight of the rider. The arrangement of the bars is analogous to that of a camp stool or chair.

WAG.'S RING.—Though [not strictly correct, it is found convenient to distinguish the three successive performances of the Niebelungen Ring as the Cycle, the Bicycle, and the Trieyole.

AMBERG'S LETTER FILING CABINETS.

One of the greatest acquisitions to a country house is the cabinet we illustrate below. By its use any correspondence, however large, may be so arranged that any one and all letters of whatever date from any person can be found instantly. The labour of folding,



endorsing, numbering, pasting, binding, or indexing, is entirely dispensed with, and the saving of time, labour, and expense over the ordinary methods is very great. The Cabinet Letter Files are now offered in their improved form to all who value their correspondence as worth keeping, and who appreciate a system where



instantaneous reference to any paper or letter of any date is an important requisite. They are well made and handsomely finished in black walnut with metal parts of brass and steel, nickel plated. They are made in sixty-five different sizes, and can be adapted to



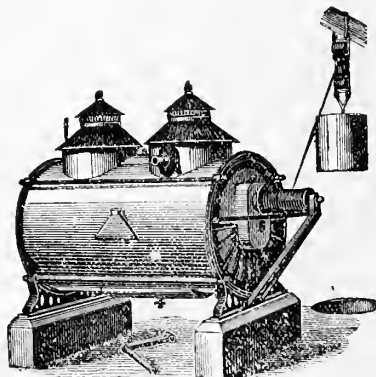
suit any requirement. Below we give front and back illustrations of the drawers and it will be seen that they have an alphabetical index working on a slide. Full particulars can be obtained of the manufacturers Messrs. Cameron Amberg and Co., 27, Little Britain, E.C.

DOMESTIC GAS MAKING MACHINE.

For country mansions where those monopolistic affairs, gas companies have not yet spread their pipes, the Sun Auto Pneumatic Gas Machine is a valuable invention. Its simplicity is obviously its first charm, and a closer inspection of its details cannot fail to

convince that every part has been studiously contrived as a means to an end, and that no minor detail has been omitted which could render the machine more perfect.

When fixed, it requires no skill labour to manage it, the whole operation being to add gasoline as the charge is used up, and when required, to wind up the weight. This occupies very little time, and requires less care than trimming a single lamp.



The gas is made as fast as it is required and no faster, therefore there is never a large quantity on the premises, and an independent gasholder is not needed.

When only one flame is burning the machine works slowly, its motion being accelerated in proportion to the number of lights in use; when the lights are not burning no gas is made.

Full particulars can be obtained from W. Hearson, 115, Southwark, London, E.C.



LIQUIDATIONS.

Edwards, J., Northwich, ironmonger.
 Heaps, J., Heaps, R., Feather, T., and Lund, W., Keighley, washing and wringing machine makers.
 Knott, R., Leytonstone, ironmonger.
 Patchist, H., Leeds, ironmonger.
 Smith, J., Roath, Cardiff, ironmonger.
 Lawrence, C. E., Shrewsbury, furnishing ironmonger.
 Robson, W., Brompton-road, ironmonger.
 Brown, W., Ashby-de-la-Zouch, ironmonger.
 Cornish, J., New-Church-road, Camberwell, ironmonger.
 Witherdon and Son, Brighton, ironmonger.
 Baguley, J., Liverpool, ironmonger.
 Ward, J., Putney, ironmonger.

DISSOLUTION OF PARTNERSHIP.

Joovey, T. F., and Watts, W. F., Suffolk-street, Southwark, bicycle manufacturers.
 Russom, T., and Co., Leeds, sewing machine and bicycle makers.
 Handley, J., and Co., Runcorn and Widnes, ironmongers.
 Harrison, J., (deceased), and Son, Oldham, ironmongers.
 Holland, W., and Shave, W., Birmingham, bicycle manufacturers.
 Warman, Laxon, and Youett, Coventry, bicycle manufacturers.
 Freindship and Gray, Osley, ironmongers.

TRICYCLES, &c.

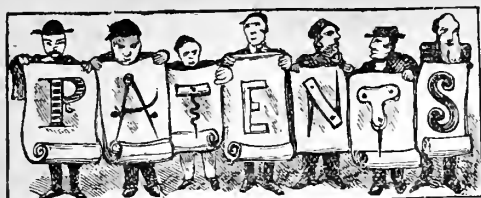
Provisional Protection has been obtained by Mr. Gustav Schulz, Clerk, and William Harrison, Machinist, both of Manchester, for "Improvements in Tricycles, part of which Improvements are applicable to other Carriages and Vehicles."

The object of this invention is to secure greater safety than the bicycle, while at the same time it is propelled almost as easily, and is also adapted to carry one or more persons, or an extra amount of luggage. The tricycle is made so that it will fold up into a small compass. They construct partly as follows:—They place two wheels in front of the driving wheel. The rider sits over the driving wheel behind the two front wheels. A seat is arranged for a second person in a front position of the back driving wheel, or a seat is arranged over each of the two front wheels, which are propelled by fixing and arranging cranks to each of the two front wheels, thereby using them also as driving wheels, when it is made for more persons to ride. The seat arranged in the front of the back driving wheel is arranged to work by hand levers. They place a fork some degrees forward of the centre, and three springs behind the fork, which forms a triangle with the fork. The seat is fixed upon the upper spring. Two propelling and steading side rods are attached to the fork, and also are connected to a ring. The wheels of the tricycle are in an a triangular position. The two front wheels are connected by an axle. The aforementioned ring rests upon the axle for the purpose of steadying the axle upon which the two front wheels are placed, and also for the attachment to the propelling and steading rods. They vary the form of the steading ring to to any part of a circle, or other shape. They either slot the steading bar at the two opposite sides, or when they fix guiders into the axle

to clip the bar on the opposite sides, or when they slot the bar they fix steading bolts through the slots into the axle. They weld, screw, or bolt to the axle of the two front wheels in a forward direction a bracket in the form of a semicircle or any other convenient shape, with part of a circle at the forward centre. A centre bar is bolted or welded to the forward part of the steading and propelling or part circle ring which bears upon the axle of the two front wheels. The centre bar rests upon the centre of the axles of the two front wheels, and may be continued to a connection with the two propelling and steading side rods attached to the bottom of the hind driving wheel fork, but preferably the side propelling rods are attached to the steading ring or part circle before mentioned. At the forward end of this bar they fix horizontally a grooved roller upon a stud which bears against the bracket or forward circle or slot, so that when the tricycle is propelled by ordinary cranks or links and levers by the driving of the hind wheel, the force is conveyed to a contact upon the forward circle or slot of the fixed bracket, which causes the two front wheels to be drawn by this forward contact of force, which is the most preferable mode of contact for drawing the two front wheels, but they make also the point of contact of force upon the centre stud, which is fixed in the centre of the axle of the two front wheels, or other connection which would be propelled by force of contact from behind. They further steady the fork by rods attached to the head of the fork, and side rods or steading ring, or circle, diagonally or otherwise. They steer either with the two front wheels or the hind driving wheel. The front steering is arranged by taking a rod through the top bracket of hind fork behind or forward of the axle of the two front wheels, at the end of which they place a toothed wheel, and they make part of a circle toothed raked, into which the toothed wheel works, or they arrange an eccentric to work within a fork, and when the rod turns the two wheels are caused to turn to the right or left. They place a steading stud centrally into the axle through a wide slot in the bar which rests upon the axle. This slot is made so wide that the force from behind does not come into contact with this stud when drawing the tricycle, as before described. They also make the tricycle to steer by the hind driving wheel by an ordinary socket, in which case they make the front wheel axle rigid. They also construct a tricycle with two wheels in front which are propelled by the hind driving wheel. They connect into parallel rods to the hind fork, and connect them a few inches forward of the driving wheel to a cross stay rod. They connect other two parallel rods further apart to the end of the cross stay rod, the latter parallel rods are connected at the forward ends to the fork heads of the two front wheels. A second cross stay is connected near the heads of the two front wheels to the two parallel rods. Two rods are connected to the two socket steering heads, and carried in a parallel or single line to the top of the head of the fork of the hind driving wheel, and connected together for the purpose of steering the tricycle by moving the rods to the right or the left. All of which is arranged to be unbolted and folded up.

A FAN FOR A SEWING MACHINE.—When the weather is exceedingly warm—say, 90 degrees in the shade—the working of a sewing machine is not the coolest operation. An American has invented a fan, which, while being in close proximity to the operator, is connected with the treadle of the machine, and revolves very rapidly. If the approaching summer is as warm as the last, they will be a welcome in this country.

THE FISHERIES EXHIBITION.—An influential county meeting was held at Truro yesterday, under the presidency of Mr. Tremayne, to promote the representation of Cornwall at the forthcoming International Fisheries Exhibition. It was resolved to form a central committee, and to raise a fund to enable the local fishermen to forward exhibits, and to contribute to the general fund. Models of the gear used in the Cornish fisheries are to be prepared forthwith.



The following List has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette," by G. F. REDFERN, Patent Agent, 4, South-street, Finsbury, London, and at Paris and Brussels.

APPLICATIONS FOR LETTERS PATENT:—

- No. 1776. J. T. Glasier and A. R. Briggs, both of Southport, Lancashire, for improvements in sewing machines for ornamental stitching. Dated April 14, 1882.
- „ 1793. J. White, of Coventry, Manager of Bicycle Works, for improvements in velocipedes. Dated April 14, 1882.
- „ 1812. W. Morgan, of Cannon-street, Birmingham, Manufacturer, for an improvement or improvements in or relating to tricycles which may be applied to similar vehicles. Dated April 17, 1882.
- „ 1830. S. J. Collier, of Manchester, for improvements in the construction of driving gear for tricycles and other velocipedes. Dated April 18, 1882.
- „ 1843. W. Brierley—a communication from H. Buettner, of Neustadt, near Stolpen, Germany, for improvements in pocket knives with self-opening corkscrew. Dated April 18, 1882.
- „ 1858. A. Leece, of Islington, London, for improvement in lamps. Dated April 18, 1882.
- „ 1859. H. E. Newton—a communication from A. Winkler, of Paris, for improvements in velocipedes. Dated April 18, 1882.
- „ 1863. A. M. Clarke—a communication from L. L. T. F. d'Automarche, of Paris, for an improved pocket filter. Dated April 18, 1882.
- „ 1885. A. H. Griffiths, of Birmingham, Manufacturer, for an improvement or improvements in tricycles and other velocipedes. Dated April 20, 1882.
- „ 1906. H. Simon—a communication from F. B. Köhler, of Cheimnitz, Saxony, Germany, for improvements in sewing machines. Dated April 21, 1882.
- „ 1911. J. G. Harrison, of Birmingham, Manager of Works, for improvements in tricycles and other velocipedes. Dated April 21, 1882.
- „ 1980. C. Townsend, of Union-street, Bristol, Gloucestershire, for improvements in thermometers. Dated April 26, 1882.
- „ 1987. B. Sawdon, of Dock-street, Hull, Yorkshire, Paraffin Lamp and Burner Manufacturer, for improvements connected with burners for naphtha, petroleum, and like oil lamps. Dated April 27, 1882.
- „ 2013. J. Mitchell, of 126, Westgate, Newcastle-on-Tyne, Draughtsman, for improvements in washing machines. Dated April 28, 1882.
- „ 2036. T. Body, of St. Austell, Cornwall, for improvements in the construction of apparatus for washing clothes and other articles. Dated April 29, 1882.
- „ 2113. H. Whitehouse, of Reading, Berkshire, Engineer, for improvements in velocipedes and similar vehicles driven by manual power. Dated May 5, 1882.
- „ 2114. T. Cooke, of Manchester, Perambulator Manufacturer for improvements in the manufacture of perambulator wheels. Dated May 5, 1882.

- No. 2133. F. J. Duggan, of Ellbroad-street, Bristol, Lamp and Stove Manufacturer, for improvements in the construction of stoves and lamps for consuming petroleum and other oils, and of burners applicable to the same and similar stoves and lamps, and also in the construction of apparatus for cooking and other analogous purposes, suitable for use in connection with the said stoves and lamps. Dated May 6, 1882.
- „ 2139. B. Bennett, of Coventry, for improvements in or relating to velocipedes. Dated May 6, 1882.
- „ 2140. G. F. Redfern—a communication from F. S. Peshine, of Newark, New Jersey, United States, for improvements in safety pins. Dated May 6, 1882.
- „ 2148. W. Dawes, of Kingston-grove, Leeds, Engineer, and J. Tankard, of Woodhouse-lane, Leeds, Engineer, for improvements in tricycles and other manumotive vehicles. Dated May 6, 1882.
- „ 2152. W. Beazley, of Birmingham, for the more perfect combustion of fuel and for the consumption of smoke. Dated May 8, 1882.
- „ 2158. H. F. D. Miller, of Birmingham, for certain improvements in lamps applicable for bicycles, tricycles, and other velocipedes. Dated May 8, 1882.
- „ 2159. A. Wilkinson, of Bradford, Yorkshire, Watch Maker, for a new and improved apparatus for automatically playing pianofortes. Dated May 8, 1882.
- „ 2160. A. M. Clark—a communication from W. S. Wood, of New York, and L. H. Livingston, junior, of Rhinebeck, New York, both in the United States, for an improved bottle cleaner. Dated May 8, 1882.
- „ 2168. G. Macaulay-Cruikshank—a communication from H. C. Rice, of Louisiana, Missouri, United States, Manufacturer of Tin Ware, for improvements in filters. Dated May 9, 1882.
- „ 2172. J. Harrington, of Coventry, Warwickshire, for improvements in velocipedes. Dated May 9, 1882.
- „ 2174. C. Harvey, Manager, and W. Paddock, Engineer, both of Birmingham, for improvements in tricycles and other velocipedes. Dated May 9, 1882.
- „ 2177. P. and F. M. Spence, Manufacturing Chemists, of Manchester, for improvements in the purification of water for domestic use and for manufacturing and other purposes. Dated May 9, 1882.
- „ 2179. A. Foster, of 2, Pulford-terrace, Malden-road, Watford, Hertfordshire, for improvements in squeegees or apparatus specially adapted for cleaning windows. Dated May 9, 1882.
- „ 2189. A. Payne, of East Mousley, Surrey, for an improved apparatus for sharpening razors and knives. Dated May 10, 1882.
- „ 2217. H. Woodward, of Shepherd's Bush, London, for an improved knife cleaner. Dated May 11, 1882.
- „ 2229. W. Blundell, of Southampton-buildings, London, for improvements in candlesticks. Dated May 11, 1882.

Letters Patent have been issued for the following:—

- No. 4600. G. Singer, of Coventry, for improvements in velocipedes. Dated October 20, 1881.
- „ 4706. H. C. de Berenger, of 7, Sinclair-road, West Kensington London, for improvements in the manufacture of knife-boards. Dated October 27, 1881.
- „ 4722. F. W. Jones, of Exeter, Devon, for improvements in and relating to velocipedes, part of which is applicable also to other purposes. Dated October 28, 1881.

- No. 4782. E. H. Smith, of New York, United States, for improved methods of and machinery or apparatus for sewing materials in the manufacture of sails, tents, and other heavy work. Dated November 1, 1881.
- „ 4846. McConnell Chamberlain, of Gresham House, Faraday-road, Notting-hill, London, for improvements in pleating and frilling machines. Dated November 4, 1881.
- „ 4865. S. Armstrong, of Birmingham, for improvements in the forks of bicycles and other velocipedes and in the manufacture of the same. Dated November 7, 1881.
- „ 4894. W. Harrison, of 128, Portland-street, Manchester, Mechanic, for improvements in knitting machines. Dated November 8, 1881.
- „ 4901. R. E. Phillips, of 37, Great George-street, Westminster, London, for improvements in the construction of velocipedes partly applicable also to other purposes. Dated November 9, 1881.
- „ 4917. E. L. Broadbent, of 142, Stamford-street, London, for improvements in the construction of bicycles, tricycles, and quadricycles. Dated November 9, 1881.
- „ 4963. J. L. Hancock, 13, Cottrill-road, Dalston-lane, London, Domestic Appliances Manufacturer, for improvements in "bakers" and other ovens, kitcheners, and gas cooking stoves. Dated November 12, 1881.
- „ 4971. C. W. Torr, of the firm of R. W. Winfield and Company, of Birmingham, Merchants and Manufacturers, for improvements in gas stoves. Dated November 12, 1881.
- „ 4999. W. Morgan-Brown—a communication from N. Wheeler, of Bridgeport, Connecticut, United States, for improvements in sewing machines. Dated November 15, 1881.
- „ 5005. E. J. Castle, of King's Bench Walk, Temple, London, Barrister-at-Law, for improvements in velocipedes. Dated November 15, 1881.
- „ 5018. W. T. Sugg, of Vincent-street, Westminster, London, Engineer, for improvements in gas-cooking apparatus. Dated November 16, 1881.
- „ 5086. H. M. Weller, of Arkwright-street, Nottingham, for improvements in knitting machines. Dated November 21, 1881.
- „ 5131. J. Inray—a communication from A. Boisard, of Paris, for improved apparatus applicable to sewing machines for overcasting. Dated November 24, 1881.
- „ 5251. W. B. Brooker, of Bootle, Lancashire, for improvements in washing machines. Dated November 30, 1881.
- „ 5305. C. R. B. Hamilton, of Greenwich, Kent, for improvements in the construction and arrangement of saddles for bicycles and other similar vehicles. Dated December 5, 1881.
- „ 5514. W. P. Thompson—a communication from N. Merrill, Lawyer, of New York, United States, for improved apparatus for driving tricycles, also applicable for driving other vehicles or the shafts of prime motors. Dated December 16, 1881.
- „ 258. R. G. Greig—a communication from The Detroit Stove Works Company, of Detroit, Michigan, United States, for improvements in stoves for heating and ventilating. Dated January 18, 1882.
- „ 423. C. A. Barlow—a communication from C. W. Wetter, of St. Gall, Switzerland, for improvements in the manufacture of machine embroidery. Dated January 27, 1882.
- No. 439. A. Burdess, of Coventry, for improvements in the construction and arrangement of the seats of tricycles, and also of the handles thereof. Dated January 28, 1882.
- „ 465. J. Byfield, of London, Ontario, Canada, for improvements in knitting machines. Dated January 31, 1882.
- „ 608. J. Beeston, of Lymington, Hampshire, for improvements in tricycles. Dated February 8, 1882.
- „ 683. A. Burdess, of Coventry, Warwickshire, for improvements in ball or roller bearings for velocipedes. Dated February 11, 1882.

PATENTS WHICH HAVE BECOME VOID :—

- No. 1458. L. H. Hauler, of Munich, Bavaria, for improvements in warming and ventilating and in apparatus therefor. Dated April 15, 1879.
- „ 1464. C. A. Barlow—a communication from F. Saurer and Sons, of Arbon, Switzerland, for improvements in apparatus for embroidering. Dated April 15, 1879.
- „ 1582. J. Grant, of Boston, Massachusetts, United States, for improvements in filters. Dated April 22, 1879.
- „ 1585. J. Greenhough, of 323, High Holborn, London, Baker, for improvements in and appertaining to bakers' ovens, and in apparatus relating thereto. Dated April 22, 1879.
- „ 1591. J. Brookes, of Birmingham, Plumber and Manufacturer, for improvements in washing machines. Dated April 22, 1879.
- „ 1608. N. Wilson, of 144, High Holborn, London, Engineer, and E. Marshall, of Edgbaston, Birmingham, Engineer, for improvements in bicycles partly applicable to other purposes. Dated April 24, 1879.
- „ 1647. A. C. Hickling, of Maidenhead, Berkshire, Bicycle Manufacturer, for improvements in velocipedes. Dated April 26, 1879.
- „ 1660. H. J. Haddon—a communication from B. D. A. Croiset, of Honfleur, France, for improvements in machinery for mixing and kneading. Dated April 28, 1879.
- „ 1775. H. W. Pohlmann, of Halifax, Yorkshire, Pianoforte Manufacturer, for improvements in pianofortes. Dated May 5, 1879.
- „ 1797. W. L. Wise—a communication from Messrs. Lane and Timæus, (Dresden Knitting Machine Company), of Löblau, near Dresden, for improvements in knitting machines. Dated May 6, 1879.
- „ 1895. J. A. Mason, of Burton-on-Trent, for improvements in washing machines. Dated April 16, 1875.
- „ 1500. W. Reid, of Glasgow, Shirt Manufacturer, for improvements in and connected with sewing machines. Dated April 23, 1875.
- „ 1582. H. Oram, of Bury, Lancashire, for improvements in the construction of sewing machines. Dated April 26, 1875.
- „ 1586. W. Heath, of Redditch, Worcestershire, Manufacturer, for improvements in sewing machine needles. Dated April 29, 1875.
- „ 1642. G. H. Loux, of Massachusetts, United States, for improvements in lamps. Dated May 3, 1875.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

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„ 3744.	E. C. F. Otto, bicycles, &c... ..	8
„ 3782.	J. White, and J. Asbury, velocipedes	8
„ 3805.	J. Humpage, velocipedes	2
„ 3827.	C. D. Abel, machinery for the manufacture of ruched, kilted, or pleated fabrics	8
„ 3860.	W. H. Squire, pianofortes... ..	6
„ 3888.	H. Haes, bicycles	6
„ 3921.	W. R. Lake, button-hole stitching apparatus	6
„ 3938.	A. Shaw, frame for washing machines, &c.	6
„ 3939.	A. Shaw, worm gearing for driving, washing, and wringing machines, &c.	4
„ 3955.	J. Whitehead, oil lamps, &c.	8
„ 3960.	F. Wirth, mechanism for pianos	2
„ 3964.	T. Perks, manufacture of needles... ..	8
„ 3968.	F. T. Bond, heating water for domestic purposes, &c.	6
„ 3970.	G. Asher, perambulators, &c.	6
„ 3973.	J. Wetter, lamps	2
„ 3977.	A. J. Boulton, sewing machines	2
„ 3978.	W. Rainbow, churn, &c.	6
„ 4010.	J. Imray, cooking stove	6
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„ 4021.	T. Ward, lamps	6
„ 4028.	F. Wirth, cases or protectors for watches, &c... ..	8
„ 4042.	S. Clark, gas and oil stoves... ..	6
„ 4051.	E. R. Settle, driving mechanism for velocipedes	4
„ 4063.	A. M. Clark, hair-pins	2
„ 4077.	Sir C. H. Pennell, apparatus for holding and controlling blind and other similar cords... ..	8
„ 4086.	J. Atkinson, gas engines	2
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„ 4106.	J. E. Leeson, lamps for bicycles and other velocipedes, &c.	8
„ 4121.	F. E. Heath, jun., driving bicycles and other velocipedes	6
„ 4122.	L. A. Groth, pocket combination knife, fork, and spoon	2
„ 4143.	J. Renals, production of embroidery	6
„ 4167.	J. F. Walters, bicycle springs and saddle combined	2
„ 4191.	G. J. Cox, gas cooking and heating stoves, &c... ..	8
„ 4203.	J. T. Goudie, vessel or appliance for heating or retaining heat in liquids or beverages, such as milk, tea, and coffee	6
„ 4206.	T. W. Walker, apparatus for washing clothes, &c.	2
„ 4215.	W. H. McNary, knitting machinery, &c... ..	10
„ 4257.	J. Wadsworth, gas heating stoves, &c.	2
„ 4264.	G. Schulz, and W. Harrison, tricycles, &c.	2
„ 4269.	F. Cutlan, sewing machines	6
„ 4291.	D. Peres, scissors, &c.	2
„ 4298.	W. R. Lake, device for securing in its place a bolt or similar article... ..	4
„ 4302.	J. E. Snridge, bicycles	2
„ 4317.	T. Warwick, bicycles, &c.	10
„ 4319.	J. A. Lamplugh, bicycles	6
„ 4333.	G. Nobes, cabinet with wash basin and urinal basin combined	2
„ 4342.	T. Fletcher, gas stoves	2
„ 4344.	H. Springmann, pianofortes	2
„ 4351.	H. Simon, sewing machines	6
„ 4364.	A. Phillips, velocipedes	4
„ 4382.	C. H. Brassington, perambulators... ..	2
„ 4385.	J. S. Edge, bicycles, &c.	2

No. 4406.	T. Thorpe, apparatus for the manufacture of knitted or looped fabrics	6
„ 4686.	J. Imray, machinery for the manufacture of looped or knitted fabrics	4

EFFECTS OF THE SEWING MACHINE UPON HEALTH.

There are in this country, says the *New York Sewing Machine Journal* thousands of women who run sewing machines—some for pleasure, others for profit, and many for both combined. As an amusement, running a sewing machine is innocent, exhilarating, and refining, and has, as a general thing, no injurious effect upon health unless indulged in to excess. Intemperance in anything is to be sedulously avoided, even in the exciting pastime of working a treadle. Of course there are some few females upon whom even a few hours work at the sewing machine has an injurious effect, but a short walk, or going up or down stairs often, would injure them fully as much. They are not in good health, but that is not the fault of the sewing machine.

As a means of earning a livelihood, operating a sewing machine is light and pleasant; and thought not as profitable as it might be, it is far superior to the old system of sewing by hand. In its effects upon the health of the operators, it is not injurious to those of good physique; and to invalids, labour of any kind is not beneficial. Years ago, when the sewing machine was not the perfect piece of mechanism that it is now, it required more exertion to run it, and some of the arguments advanced against its use were not without force; but with the light-running machines so plentiful in the market, no fault can be found. To a person in average health their use cannot prove injurious; and no valid arguments can be based upon the experience of invalids.

Occasionally some mechanical genius comes to the front with a discovery and an invention—the bane and antidote. He discovers that the use of the sewing machine is ruinous to every woman operating it; that working the treadle injures the health and undermines the constitution. He brings forth facts and figures in support of his assertion, backed by the certificates of learned physicians who have noticed the increasing prevalence of strange and mysterious maladies among those in the habit of running sewing machines. A recent writer in a French medical journal says, that “in hysterical women, working at the sewing machine seems to be, in certain cases, the occasional cause of the appearance locomotor ataxy. The symptoms commence in the lower limbs, and progress upward. Shooting pains traverse the limbs from below upward. Improvement is noticed when the patient rests, and it may last along time. Working at the machine by means of a treadle probably acts chiefly by the concussion, which is diffused throughout the spinal cord.” Therefore the continuous movement of the treadle is dangerous to the workwoman, and endeavours should be made to substitute some other motor for the foot power.

The invention devised by the original genius who usually discovers these startling facts is the motor for which the physician so eloquently pleads; but the fact that the motor is usually introduced by the person who proclaims the imperative need for it should cause his statements to be investigated before being accepted as true. There is no doubt that a good reliable motor, cheap and economical, is much to be desired; and the man who puts one on the market will be almost as great a benefactor as the inventor of a sewing machine. But that is needed solely on health grounds has not been proved. Theories are very nice things—handy to have in the house as a subject of conversation—but the results of a thirty-year practical test of the treadle is far more valuable than all the theories that can be built upon the limbs of a few hysterical females. For a quarter of a century the sewing machine has been worked by a treadle, and the health of women to-day will compare favorably with the health of their grandmothers who went down to the grave ignorant of the use of the sewing machine treadle. If half the startling theories broached by interested inventors and speculative physicians were true, there would scarcely be a healthy woman in the land, and the use of the treadle would have been prohibited by law years ago.

MR. PLATT'S PUBLICATIONS.

JUST PUBLISHED, PROGRESS, by JAMES PLATT,
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Introduction—Casualty—Acquisitiveness—Capital—Free Labour—
Employes—Technical Education—Production—Distribution—Progress—
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ONE SHILLING.

“TRUE progress needs clear perception of things as they are, the power to see and understand what is seen. There can be no progress by people or nations without obedience to the law of healthy development of the best parts of our nature; a steady and persistent struggle after ‘more light,’ the earnest desire for ‘truth,’ an invincible determination to leave the world better than we found it; an onward and upward progress achieved by a knowledge of the laws that cause success, and faithful observance thereof. The philosophy based upon ‘cause and effect’ suits all ages, all climes; it satisfies and stimulates. The point which yesterday was invisible is its goal to-day, and will be its starting-point to-morrow. It is a creed that ever urges mankind on, which never rests, which has never attained, which is never perfect. Its aim is ‘progress’ for ever and aye progressing. Its belief is that there is nothing in human life that men deem impossible that may not come to pass; nothing that has been done by the *life* of men but that all men might do; nothing that has once occurred that may not reproduce itself again. It has become essential for the further progress of mankind that they be taught to perceive the regular action of eternal principles, be trained to perceive that ‘all effects are due to causes.’” (—Page 8.)

“THE cause and effect theory puts aside the conflict between science and religion, and substitutes a creed in harmony with every new discovery of science and surrounding nature; it is upheld by, and satisfies, our reason, morality, righteousness; it tells men they must strive for healthy bodies and healthy minds; their hands must be clean, their minds pure, if they want peace and happiness. You may say that the idea is not practical, while it may be that the world is not yet ready for it; but year by year the people will grow wiser, and the onward progress of the latter thought will be marvellous, the people recognising that it is not a myth, but a fact, that the sins of the fathers are visited upon the children, daily, hourly, inevitably; and that, if a man wishes his descendants to escape punishment—if he has a desire to escape it himself—must walk circumspectly. It is no use for the drunkard, the improvident, or the prodigal to ask for mercy, as to say he repents, on his death-bed; it is too late to mend; he has sinned, he has broken the laws of health or morality; the effect will follow as certain as the night follows the day; ‘as we sow, so shall we reap.’ Accept as a truth, that no man or woman can lead an immoral or dishonest life without punishment ensuing. They may be sorry, may repent; the anguish and remorse is part of their punishment; the consequences of their wrong-doing cannot be escaped; some one must be—is punished.” (—Pages 9 and 10.)

“I AM as anxious for the moral and social amelioration of the condition of mankind as anyone, but think the object can only be attained by ‘removing the causes that impede and check the development of man’s intellectual and moral nature,’ and I rely wholly and solely on man’s doing for himself what theologians teach men to ask God to do for them. I do not ask men to be ‘content,’ but to have an abhorrence of the social and moral hideousness that surrounds them. I do not ask men to excuse themselves under the plea of ‘being born in sin,’ the innate depravity of human nature, man’s incapacity to raise himself, the necessity for a ‘vicarious sacrifice,’ but I unhesitatingly assert that if man be deprived, it is his own fault; that he has the power to rise superior to the temptations that surround him; that he is punished for cowardice of commission or omission by the laws of his nature.”

The old belief lowers man and crushes his aspirations, by putting his advancement upwards outside of himself; makes him a mere puppet, a sport for the inscrutable dispensations of Providence. Blind faith is honoured above the sublimest of acts. The new system entirely reverses this; it raises man’s self-respect, gives a dignity to his nature, stimulates his desire to observe and think, to progress, by telling him plainly that all advancement rests with himself alone; encourages him, by explaining that, by the inevitable action of God’s laws, every effort onwards makes him stronger for still climbing upwards; that obedience to law will slowly but surely remove the ills that have been inherited through the disobedience of his predecessors and his own.” (—Pages 10, 11, and 12.)

PROGRESS, ECONOMY, BUSINESS, MORALITY, MONEY, LIFE. To be had of the Publishers, SHIPPIN, MARSHALL, & Co. Stationers’ Hall Court, London, E.C.; or of any Bookseller in the Kingdom, and to be had at the Railway Bookstalls of SMITH & SON’S, and at WILKES & Co’s Railway Bookstalls.

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“THE appeal to the masses to touch property requires the greatest care; and statesmen should remember this fact, that, up to the present moment a want of respect for, or equality in property, has meant the same thing as savagery, and that respect for, and inequality in property, has always co-existed with what we mean by civilization; it has always, that is, recognised its duty in fulfilling all its obligations as a sacred duty; these are all conducive to peace and prosperity, all rouse man’s highest faculties, urge him upward. It is not the spendthrift, but the thrifty, that helps forward progress; to acquire, to possess, to increase the national capital, is essential for progress in the arts, for progress in the sciences, for progress in the conquest by mind of matter. Every heritage of thought, or beauty, or legal wisdom, that has come down to us from our fathers, has been built up by the sweat of the brow, by inequality, and divided into rich and poor, privileged and unprivileged. There is not one of the great civilizations of the past but tells with a solemn plainness this hard truth. Babylon and Egypt, Athens and Rome, and modern Europe through all its changes, are all unanimous and unequivocal in their witness to the truth of this law of nations, ‘inequality,’ and that the steady progress of civilization has depended upon, as it can only subsist by, the sacredness of life and property by every member of the community.” (—Pages 57, 58.)

“FROM the earliest period man’s courage has been daunted by the perception that, though it might conquer an evil thing, that thing was pretty sure to return. Darkness might vanish before the dawn, but it returned; the stormy cloud cleared away, but it came again; the sickly season passed, but it came back; the cancer was eradicated only to reappear; the tyrant might be slain, tyranny remained; the struggle seemed hopeless, the doctrine of despair led up to that of ‘fate.’ The greatest obstacle to ‘progress’ in every clime and every age, has been ‘superstition,’ kept alive by that deadly poison, ‘ignorance’—the support of ‘dogma and priestcraft,’ the cause of ‘intolerance,’ that plague of the past. Yet mankind marched on, nothing doubting, step after step, with the spirit of humanity keeping alive the hope of a better future within them, until, after a long and terrible battle, life has conquered: Liberty, peace, justice, reason, conscience, science, have taken root; and the shoots of the upas tree planted by the hands of dogma and priestcraft in every part of the earth will soon disappear, when mankind learns ‘that nature’s laws are eternal, and that her small still voice, speaking from the inmost heart of us, shall not under terrible penalties, be disregarded.’ Believe, if you like, that divine love came down to take on itself our sins; in ‘life’ we find there is no Saviour to do the like for us; we shall individually suffer for our mistakes and weaknesses; and the nation must suffer that, by its politics, ‘curbs,’ rather than fosters, individual efforts onwards and upwards.” (—Pages 182, 183.)

BUSINESS takes up the position that if all men cannot succeed in making a fortune, no one need fail if they understand their business thoroughly, work indefatigably at it, and live thriftily.

MORALITY was written to show that “honesty is the only policy,” that there can be no permanent or lasting success for individuals or nations unless they are wise enough to see that “morality,” or “doing to others as they would be done by,” must be the guiding spirit of their actions.

MONEY was intended to get people to think more of the circulating medium and its action by means of gold, paper money, the value of banks and cheques.

LIFE describes the impression made upon my mind in a busy career amongst all classes of men; and as it has always seemed to me that we suffered enough in this world for our manifold sins and wickedness, my object was to get my readers to try and make the most of this world by learning and reverently obeying the Creator’s laws, and dismissing the next world from their minds, feeling assured they might safely leave their future in the hands of their Father in heaven.

PROGRESS has been written to indicate in a brief space the giant strides that have been made in every department of industry, commerce, and science since the last century; but its principal intent is to make men more thoughtful, more observant of what is going on around them.

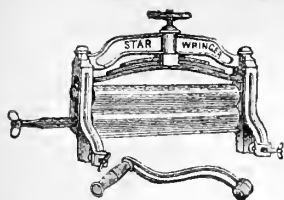
“PROGRESS is written to show that human history is a record of progress. Progress is God’s law, which we may hasten or retard, but cannot stop altogether. Every succeeding age starts with a record of accumulated knowledge in the arts of production; of increased wisdom, that enables each generation to get rid of some of the errors of its predecessors. We have, therefore, a continual advancement from a lower to a higher status of intelligence and well-being. We do not mark the progress that is going on; the days and years seem to type themselves unalterably. In reviewing the past, it seems at first sight as though there were long periods of stagnation, evils quietly endured for generations, to be suddenly and violently overthrown in sudden amelioration. But, like the ‘little worms beneath the surface,’ nature is steadily pursuing her work in her own quiet but inscrutable way. The stagnation is only apparent; there is being acquired a silent accumulation of forces, whose gathered power will sweep heaven’s portals by the inevitable operation of nature’s laws, remove the barriers to man’s progress. For ages it seemed weary work; man seemed helpless against the ‘monarch’s and the priest’s control;’ the brain of man was refused the power of thought, except in the ‘orthodox’ manner. No sooner was ‘thought free,’ no sooner were the barriers which prevented progress overthrown, than we see in the nineteenth century a progress rapid beyond all precedent; the stream of human development received into its sluggish currents a mighty impulse for the amelioration of the condition of mankind.” (—Page 124.)

“THERE is a religion that can be taught in all schools, adapted for all men—the religion of progress, the religion of nature, the religion of duty, of right, of good, of love—which explains and prepares men’s mind for seeing where their duty lies, of distinguishing good from evil, and why it is good or evil. It is useless merely to root up error, leaving one’s soul as dry and barren and useless as sea shingle; take away the falsehoods of life, but replace them with truths. It must be right to improve things in the world, to make it better for man and beast, to do all we can to increase happiness, and refrain from doing anything that will diminish it.” (—Page 192.)

“THE time has come when mankind must face the question boldly and openly, how the ‘Creator governs the world we live in?’ does ‘progress’ depend on the observance of God’s law? Are man’s religion to be known by his acts, or by his profession of belief? Are we to believe in ‘cause and effect,’ in ‘law’ invariable, inevitable, unerring law; or in destiny, fate, predestination. Divine interposition? I put this question to you plainly, because it seems to me that upon it rests our future.” (—Page 200.)

N. B.—Every Tradesman should read the chapter on “Distribution,” more especially pages 172 to 178, which explains fully the necessities for the ‘Parcel Post,’ and the question of carriage of parcels by Railway Companies.

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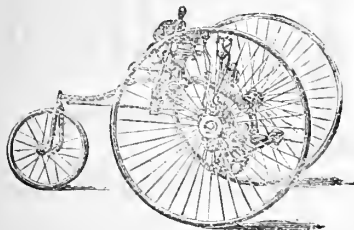
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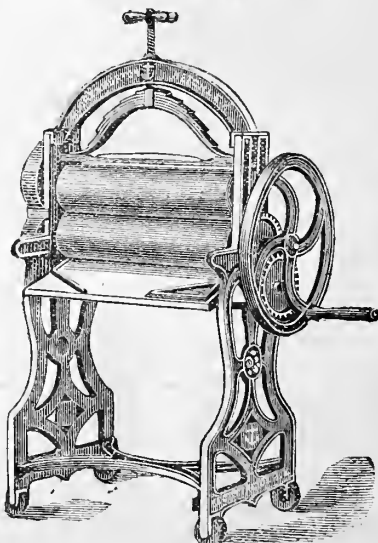
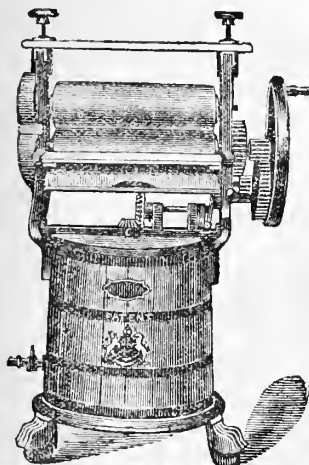
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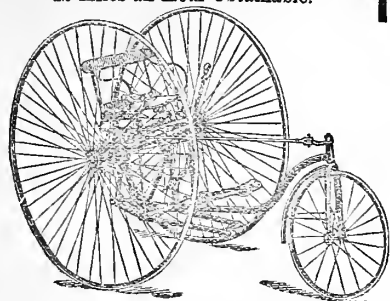
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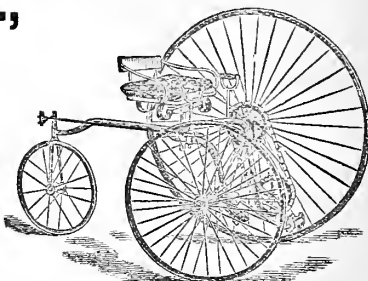
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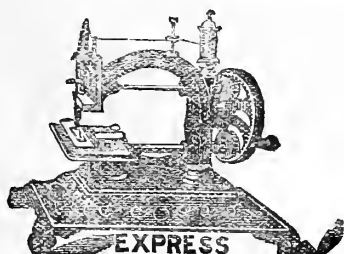
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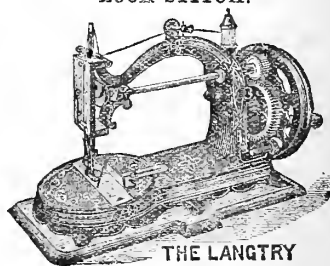
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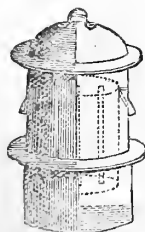
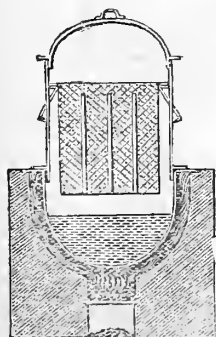
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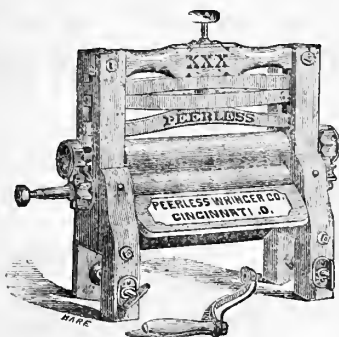
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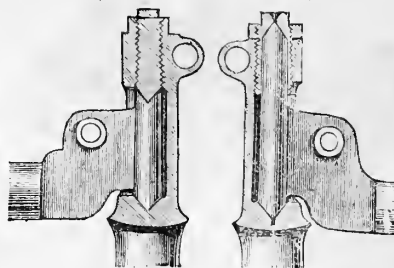
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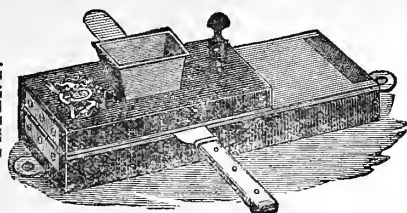
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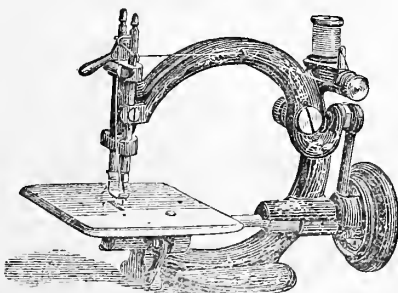
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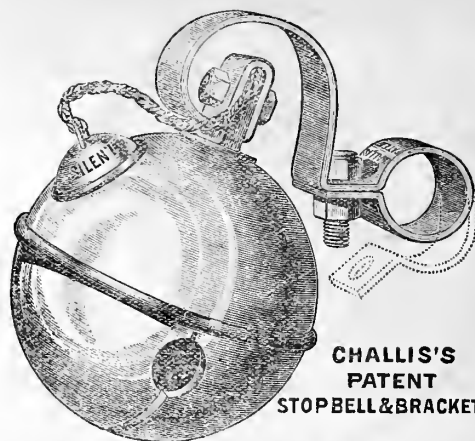
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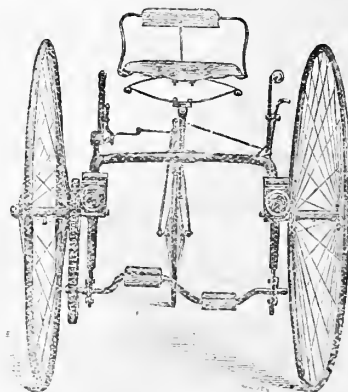
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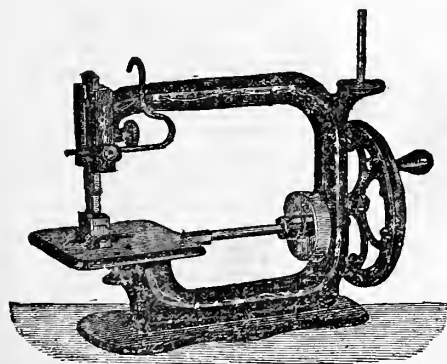
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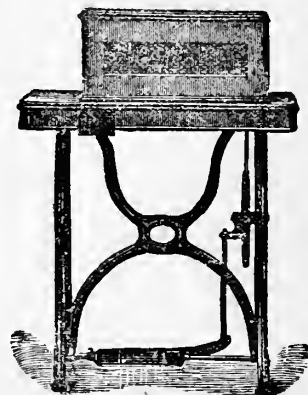
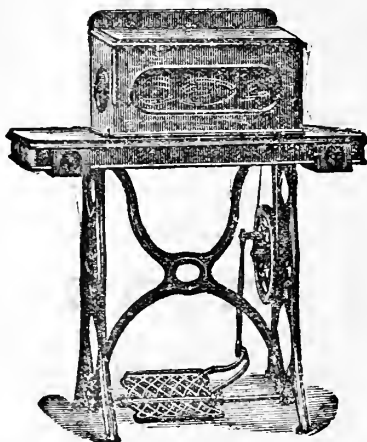
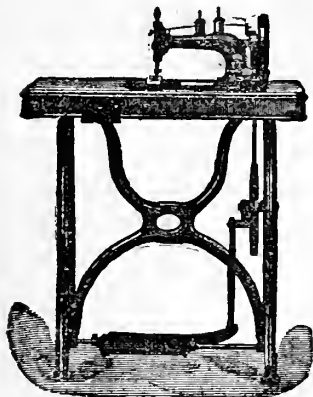
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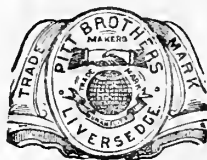
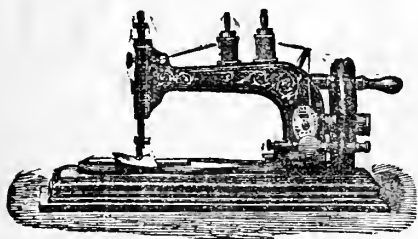
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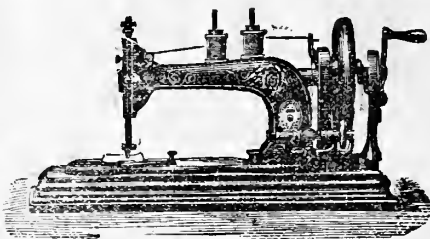
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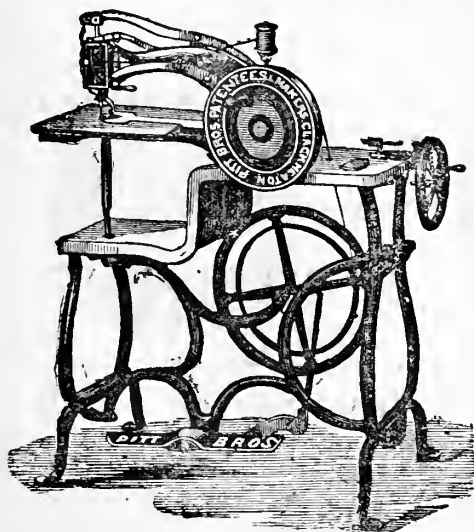
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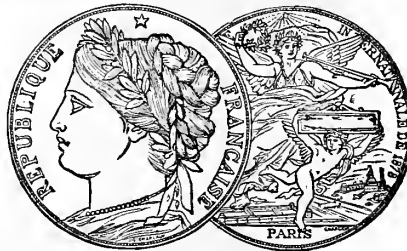
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Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 47, St. Thomas-street
Windsor, 64, Pussod-street
Winsford, Over-lane
Wirksworth, North-end
Wisbech, 51, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-row
York, 24, Coney-street

WALES.

Abergavenny, 19, Market-street
Aberystwyth, Market-hall
Builth, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Llanmaes-street
Carnarvon, 5, Bridge-street
Dolkeigh, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pentypyd, Market-hall
Pontypridd, Market-hall
Swansea, 103, Oxford-street

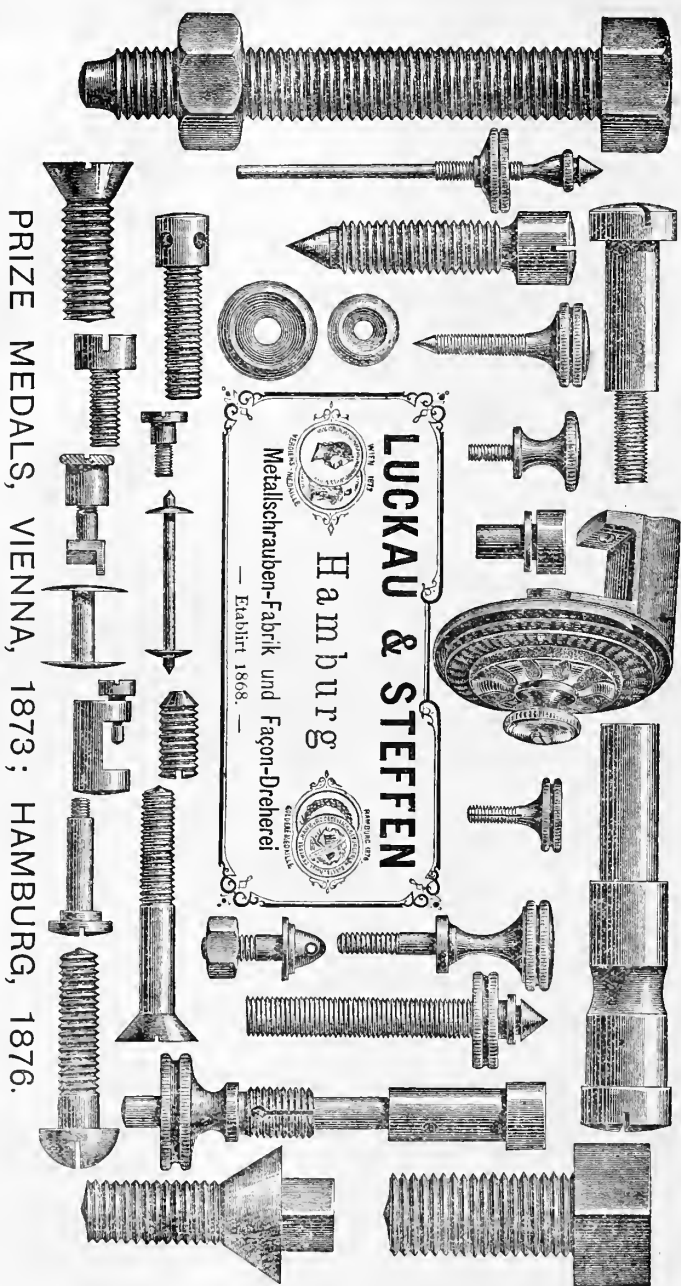
SCOTLAND.

Aberdeen, 225, Union-street
Arbroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Cupar-Fife, 61, Cressgate
Dumbarrow, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 28, Castle-street
Galashiels, 62, High-street
Glasgow, 39, Union-street
Greenock, 4, West Blackhall-st.
Hamilton, 32, Cadzow-street
Hawick, 3, Tower-knowe
Inverness, 14, Union-street
Kilmarnock, 83, King-street
Kirkcaldy, 63, High-street
Kirkwall (Orkney), Broad-street
Montrose, 36, Murray-street
Paisley, 101, High-street-cross
Peebles, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 61, Murray-place
Tain, Lumington-street
Thurso, Princes-street

IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st.
Belfast, 3 and 4, Donegal-sq., N.
Carrick, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 1, High-street
Fermoy, 1, King-street
Galway, Domic-street
Kilrush, Moor-street
Kinsale, 64 Lower George-street
Limerick, 31, Patrick-street
Longferry, 1, Carlisle-road
Mullingar, Greille-street
Navan, Primate-street
Newry, 18, Sugar-island
Parsinstown, 2, St. Denis
Queenstown, Harbour-row
Sligo, 45, King-street
Tralee, 6, Middle-street
Waterloo, 124, Quay
Wexford, Solah-street.

LUCKAU AND STEFFEN, HAMBURG.



PRIZE MEDALS, VIENNA, 1873; HAMBURG, 1876.

Manufacturers of Metal Screws, &c.
ESTABLISHED 1868.



LISTER & CO., MANNINGHAM MILLS, BRADFORD,

MANUFACTURERS OF

**MACHINE SILKS AND TWISTS,
BUTTON-HOLE SILK TWISTS,**

KNITTING AND EMBROIDERY SILKS, FILOSELLE, &c.

Recommended for Strength, Evenness and Pure Dye. Length indicated on each Label guaranteed.

ONE TRIAL WILL PROVE THEIR SUPERIORITY.

L. & Co.'s Knitting Silks Wash as Well as any produced.

Sold by all Drapers, Haberdashers, Berlin Wool Houses, Sewing Machine Agents, &c.
Wholesale Depot: London, 2, FALCON SQUARE, E.C. Manchester: 26, YORK STREET.

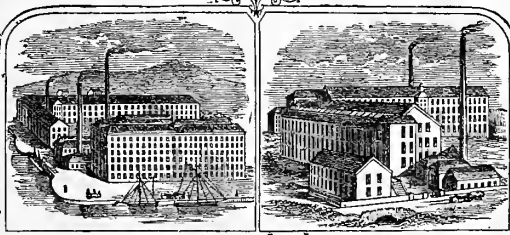
**MACHINE COTTON.
SIX-CORD SOFT COTTON.
CROCHET COTTON.
CRAPE COTTON.**



CARLILE & CO.

TRADE MARK

ESTABLISHED 1752.



**MARKING COTTON.
PATENT GLACE COTTON.
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**CARLILE & CO.'S
SIX-CORD SOFT AND EXTRA QUALITY GLACE,**

BEING OF VERY SUPERIOR QUALITY, ARE SPECIALLY ADAPTED

FOR MACHINE SEWING.

C. and Co. beg to direct attention to their
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MANUFACTURERS OF

BACKINGS & DRESSINGS

FOR LEATHER



BROWN'S SATIN POLISH.



Highest Award, Philadelphia, 1876. Gold Medal, Berlin, 1877. Highest Award and only Medal, Paris Exhibition, 1878. Highest Award, Melbourne, 1881. Highest Award and only Medal, Frankfort, 1881.

The "Satin Polish" is the most elegant article of the kind ever produced.

LADIES' SHOES, which have become Red and Rough by wearing, are restored to their ORIGINAL COLOUR and LUSTRE, and WILL NOT SOIL THE SKIRTS WHEN WET. **TARNISHED PATENT LEATHER** is improved by it.

For **TRAVELLING BAGS, TRUNKS, HARNESS, CARRIAGE TOPS, &c.**, it is unequalled. It will not harden the Leather nor Crack.

BROWN'S PATENT LEATHER DRESSING.

This Dressing is suitable for Fine Leather Goods, holding its lustre much longer than the Dressings which have heretofore been used, and will not render them stiff and hard; neither is the leather as liable to mould. It is most admirably adapted to the wants of dealers whose goods become shopworn or are in any way defaced.

BROWN'S HEEL AND EDGE BURNISHING INK
IS TOO WELL KNOWN TO REQUIRE COMMENT.

AMERICAN MAGIC BRONZE,

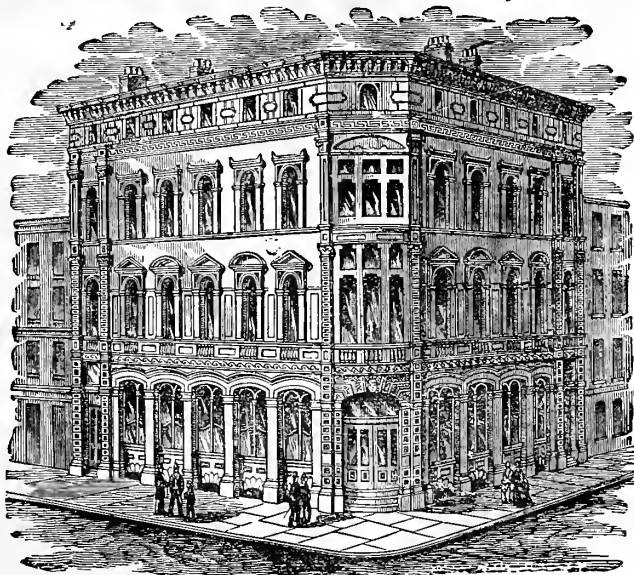
For Bronzing Boots, Shoes, Slippers, Satchels, and all kinds of Leather Goods.

FACTORIES: 133 and 135, Fulton-street; 154 and 156, Commercial-street, Boston; 377, St. Paul-street, Montreal; 18 and 20, Norman's-buildings, St. Luke's, London, E.C.

ESTABLISHED 1836.

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With their various associated Agencies, form together a complete organisation for the protection of Bankers, Merchants, Manufacturers, Traders, and others, against risk and fraud in their various commercial transactions.

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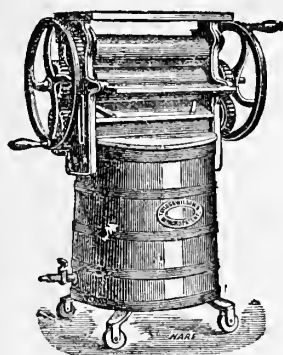
PRIZE
MEDAL



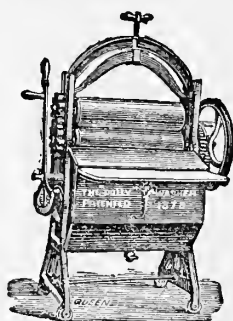
AWARDS
1880.

TAYLOR AND WILSON'S

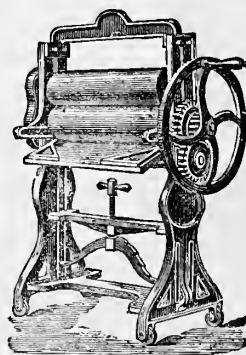
"HOME" WASHER	. . .	FIRST PRIZE
"DOLLY" WASHER	. . .	SECOND PRIZE
WRINGING MACHINE	. . .	FIRST PRIZE



Price, £6 : 6 : 0.



Price, £3 : 10 : 0.



Price, £3 : 5 : 0.

Awarded upwards of 150 Gold and Silver Medals and First Prizes.

THE ANNUAL SALES EXCEED THOSE OF ANY OTHER WASHING MACHINE.

Our Goods are all guaranteed to be made from the best materials, thoroughly seasoned, and are all fitted with our well-known patents and appliances, which cannot be supplied by any other maker.

Illustrated Catalogue free on application to

TAYLOR & WILSON,

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PATRONIZED BY HER MAJESTY THE QUEEN.

ALWAYS IN STOCK.

Saddles, Saddle Bags,
Bells, Whistles,
Horn Handles, Oil Cans,
Lubricators,
Oil in Bottles, &c.

BOWN'S PATENT "AEOLUS"

ALWAYS IN STOCK.

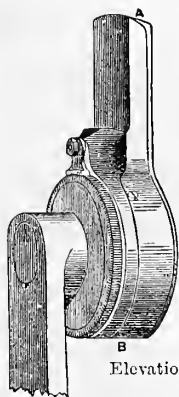
Heads, Finished and
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Crankes, Pedals, Hubbs,
Flanges, Spokes, Rims.
India Rubber Tyres,
Hollow Forks, Backbones,
&c.

UNIVERSALLY ADJUSTABLE BALL BEARINGS,

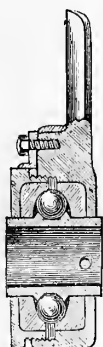
For Front Wheels, Back Wheels, and Pedals of Bicycles, Tricycles, and other Carriages.

Are dust or dirt proof and longer distances can be travelled without lubrication than with any other Bearings in use. The continued and increasing demand, and the numerous commendations voluntarily accorded by both Amateur and Professional Bicycle Riders of eminence fully establish the fact of their vast superiority over all others.

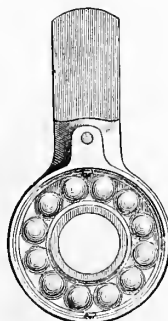
Front Wheel Bearings.



Elevation.

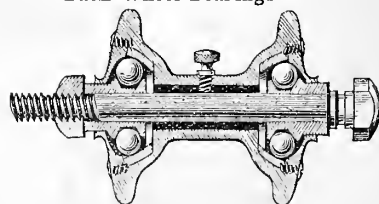


Section
through A B of Elevation.

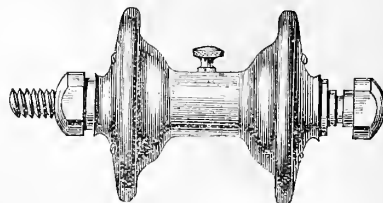


Front view with
Cap removed.

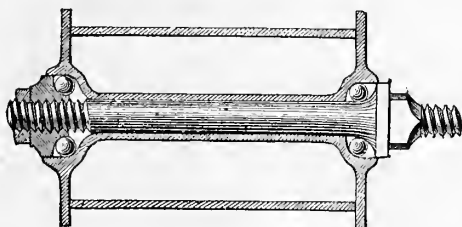
Back Wheel Bearings.



Elevation

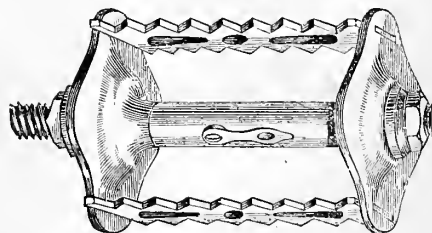


Elevation.



Section.

PEDALS.



Elevation.

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WILLIAM BOWN, 308, SUMMER LANE, BIRMINGHAM,

ALSO
Manufacturer of General Bicycle Fittings, Materials, Extras, and Stampings in Iron and Steel for same.

THE LIGHT RUNNING STANDARD SEWING MACHINE

A MODEL OF SIMPLICITY AND BEAUTY
NEVER GETS OUT OF ORDER
AGENTS WANTED

LATEST IMPROVED
MOST POPULAR
BEST

A PATTERN OF PERFECTION
MAKES NO NOISE
& DOES NOT FATIGUE THE OPERATOR

RENNICK, KEMSLEY & CO.
4, FINSBURY CIRCUS, LONDON, E.C.

ELIAS HOWE SEWING MACHINES,

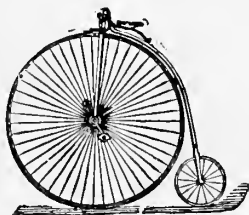
ADAPTED FOR EVERY DESCRIPTION OF WORK.

Families will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several plies of heavy Cloth.

Dressmakers who once use THE HOWE give it the preference over all others for beauty and durability of Stitch.

PURCHASE NO MACHINES

Complete with all Appliances from £4 4s.



Manufacturers of Boots and Clothing, who carry on a high-class trade, ONLY USE THE HOWE MACHINE.

A trial is all that is necessary to convince those in want of a Sewing Machine that THE HOWE is entitled to pre-eminence over all others.

WITHOUT THIS TRADE MARK.

Price Lists and Samples of Work post free.



The Howe Machine Co. are also manufacturers of Bicycles and Tricycles.

THE HOWE BICYCLE, Price from £15 15s.. Possesses all the latest improvements, and will be found unrivalled for quality of workmanship and material. See Special Lists.

THE HOWE TRICYCLE, Price £16 16s. A Machine designed on the Best Mechanical Principles.

THE HOWE MACHINE COMPANY (Limited), 46 & 48 Queen Victoria Street, London.
Factory: Avenue Street, Bridgeton, Glasgow.

RAYMOND'S CANADIAN SEWING MACHINES.

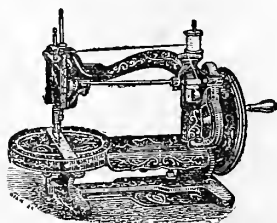


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c. — (See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work. Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder.

Testimonials, Prospectuses, Samples of Work, and all particulars free on application.

ALSO

Raymond's No. 1 and 2 TREADLE MACHINES for Families, Dressmakers, and Manufacturers

AGENTS WANTED.

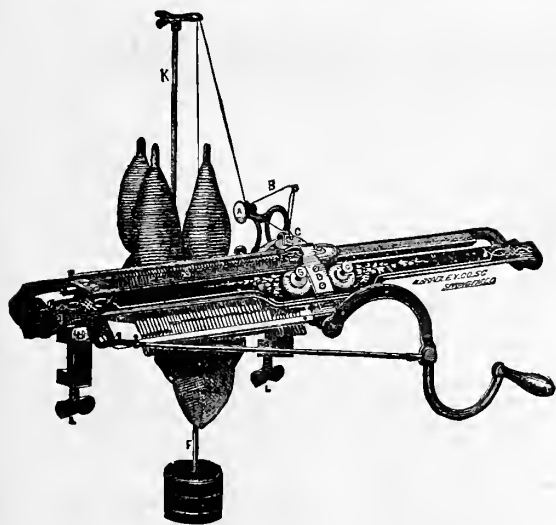
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P. FRANK, AGENT.

ESTABLISHED 1863

THE GENUINE "LAMB" ORIGINAL KNITTING MACHINE.



"LAMB," Registered Trade Mark.

Knits Hosiery of all sizes and perfect shape without seams exactly like handknitting;—knits also the greatest variety of different Garments, Fancy Goods, &c., &c.

It is worked by hand,

Is constructed of best material, and in the highest style of workmanship.

Will last a lifetime

Delivered well packed complete, with Spooling Machine, &c.

INSTRUCTION FREE.

PRICES.

From £13 13s. upwards.

Liberal discounts to Merchants and the Trade
Any size or gauge of machine built to order on special terms and arrangements.

For further particulars apply to

BIERNATZKI & Co.,

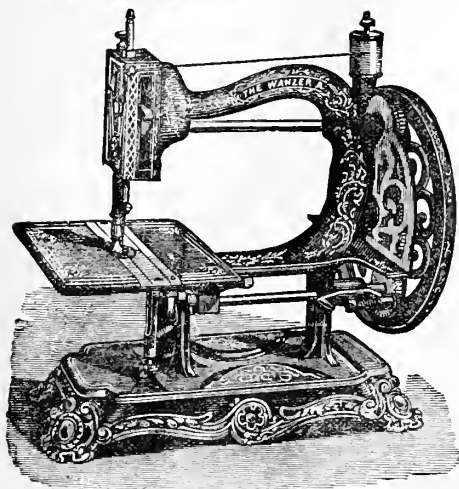
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THE "WANZER"

LOCK-STITCH, HAND OR FOOT, SEWING MACHINES.

First Prize Medals, Honours & Awards, wherever Exhibited.



WANZER "A"

IS THE

Great Mechanical Success of the Age.

It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

THE NEW "LITTLE WANZER."—Entirely reconstructed and improved. Nickel-plated, Loose Wheel, New Patent Shuttle, Take-up Lever and Spooler. £4 4s.

WANZER "A." Simplicity Itself.—The most powerful yet light running Hand Machine, straight race. £4 4s.

WANZER "C" Light Foot Family Machine, entirely New, with every improvement up to 1879. £6 0s.

WANZER "F" Family Machine, with Reversible Feed and Stitch Lever. £7 10s.

WANZER "E" Wheel Feed Machine, for heavy work of all kinds £8 8s.

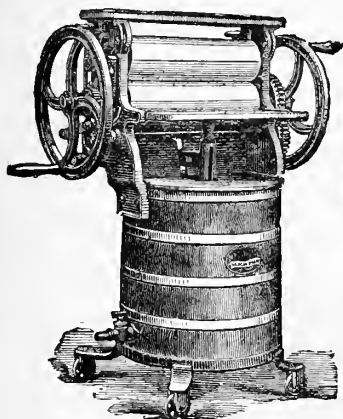
WANZER PLAITING, KILTING AND BASTING MACHINES,

Over 200 varieties of perfect Plaiting or Kilting, from 30s. complete. *The only Machine Kilting and Basting at one operation.*

The Wanzer Sewing Machine Company,
LIMITED,

**Chief Office—4, GREAT PORTLAND ST.,
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NEW HIGH-CLASS WASHING MACHINE.



The "PARAGON" Washer, Wringer and Mangle (KENWORTHY'S Patent) is a compact powerful, and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize, Silver Medal, General Competition, and also an extra First Prize, Silver Medal for Improvements; Worsley Agricultural Show, the Society's Medal; Altricham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society Medal; also gained Prizes and Honours at the Northumberland, Halifax, Tordoun, and Preston Agricultural Shows.

Shaving Plunger, which works up and down in tub about 60 times per minute, atmospherically forcing the hot water and soap through the clothes, thus not only loosening the dirt but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate articles.

Mr. JORDAN EVANS, 92, Cawder Street, Prince's Road, Liverpool, says:—"I beg to inform you that the 'PARAGON' Washing, Wringer, and Mangle Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in less than two hours."

Patentees and Sole Manufacturers of the Celebrated and World-Renowned **PATENT "CANADIAN WASHER,"** which is the most Simple, most Effective, and the most Economical Washer ever offered to the Public. This is on the same principle as the "Paragon Washer" Plunger, but is made to use by hand in any ordinary maiden tub, washtub, or bowl. Over 30,000 have been sold in a short time.

AGENTS WANTED in Districts not yet Represented.

E. N. KENWORTHY & CO., WASHING MACHINISTS, **OLDHAM, LANCASHIRE.**
ALPHA WORKS,

London Agent, Mr. **HARPER TWELVETREES,** Finsbury Pavement, E.C.



The following List has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette," by G. F. REDFERN, Patent Agent, 4, South-street, Finsbury, London, and at Paris and Brussels.

APPLICATIONS FOR LETTERS PATENT:—

- No. 2268. H. T. Davey, of 76, Disraeli-road, Putney, London, and P. A. Holst, of 97, Finsbury-pavement, London, for improvements in the means of or apparatus for the propulsion and fitting of wheeled vehicles known as velocipedes. Dated May 13, 1882.
- „ 2270. A. H. Hearington, of Southampton-buildings, London, for improvements in apparatus for obtaining heat and light from gas. Dated May 15, 1882.
- „ 2282. J. Brookes, H. J. Brookes, and M. Green, all of Smethwick, Staffordshire, for certain improvements in the construction and arrangement of velocipedes. Dated May 15, 1882.
- „ 2298. W. R. Lake—a communication from J. Kearney, of San Francisco, California, United States, for improvements in apparatus for operating sewing machines by electricity. Dated May 16, 1882.
- „ 2299. W. R. Lake—a communication from A. Fitz Gerald, of Fairfield, Main, United States, for improvements in and relating to cabinets or stands for sewing machines and like articles. Dated May 16, 1882.
- „ 2304. R. Bramwell, of Bayswater, London, for an improved apparatus for washing dishes and other table utensils. Dated May 16, 1882.
- „ 2314. G. W. von Nawrocki—a communication from L. Schmetzer, of Rothenburg-on-the-Tauber, Germany, for improvements in roofs or coverings for carriages and perambulators. Dated May 17, 1882.
- „ 2315. W. Burrow, and G. Dawson, both of Leeds, Yorkshire, for improvements in machinery or apparatus for marking out the lines on lawn tennis courts. Dated May 17, 1882.
- „ 2343. W. R. Lake—a communication from G. Gowing, of Oakland, California, United States, for improvements in and relating to machines for sewing heavy fabrics such as carpets and the like. Dated May 18, 1882.
- „ 2347. E. Edwards—a communication from Messieurs M. Deetjen and Company, of Berlin, Germany, for an improved adjustable holder for supporting and holding candles in candlesticks. Dated May 18, 1882.
- „ 2352. J. Preston, of 28, Armagh-road, Stratford-le-Bow, London, Perambulator Maker, for improvements in perambulators. Dated May 18, 1882.
- „ 2360. W. H. Crispin, of Prince Arthur-road, Hampstead, London, for improved apparatus for making coffee and tea, which I call 'The Unique Caf  th  tier.' Dated May 19, 1882.
- „ 2361. G. D. Macdougald, Analytical Chemist, of Dundee, Forfarshire, North Britain, for improvements in the construction of velocipedes. Dated May 19, 1882.
- „ 2371. L. H. Curtois, of Loughborough, Leicestershire, for improvements in velocipedes, parts of which improvements are applicable to other machines. Dated May 19, 1882.
- No. 2380. A. Phillips, of Excelsior Works, Rea-street, South Birmingham, Manufacturer, for improvements in velocipedes. Dated May 20, 1882.
- „ 2393. F. J. Cocks, of Yardley, Worcestershire, Commercial Agent, for improvements in tricycles and other velocipedes. Dated May 22, 1882.
- „ 2394. S. Peppler, of Piccadilly, London, and J. Carter, of Southampton, for improvements in pianofortes. Dated May 22, 1882.
- „ 2396. J. H. Radeliffe, of 10, Marlborough-street, Oldham, Lancashire, Manufacturer, for improvements in the construction and manufacture of lamps and feeders, and also in the construction and manufacture of oil lamps used for heating and other purposes. Dated May 22, 1882.
- „ 2399. A. A. Fisher, of San Francisco, California, United States, for improvements in sewing machines. Dated May 22, 1882.
- „ 2406. H. H. Hazard, of 54, Marylebone-lane, Oxford-street, London, Engineer, for an improved tricycle. Dated May 22, 1882.
- „ 2410. E. G. Brewer—a communication from J. E. Donop, of Paris, for improvements in scissors, particularly applicable for horticultural and pruning purposes generally. Dated May 22, 1882.
- „ 2412. T. Green, of the Smithfield Iron Works, Leeds, Yorkshire, for improvements in apparatus for marking ground for lawn tennis and for other purposes. Dated May 22, 1882.
- „ 2413. R. Kirkman, junior, of The Spinneys, Coshy, Leicestershire, Farmer, for improvements in lawn mowers. Dated May 22, 1882.
- „ 2433. A. Greenwood, of Leeds, Yorkshire, Machine Maker, for improvements in reciprocating shuttle sewing machines. Dated May 23, 1882.
- „ 2434. J. Gibbs, of St. Mary Axe, London, Merchant, for improvements in the construction of tennis racquets. Dated May 23, 1882.
- „ 2442. G. A. Cochrane, of Montreal, Canada, and of New York, United States, for improvements in darning lasts. Dated May 23, 1882.
- „ 2447. R. Henry, of Edinburgh, Cabinet Maker, for a new or improved apparatus for opening and closing window curtains. Dated May 24, 1882.
- „ 2448. E. Ashworth, of Bolton-le-Moors, Lancashire, Thread Manufacturer, for improvements in yarn winding machines. Dated May 24, 1882.
- „ 2473. F. C. Glaser—a communication from A. Battes, of Cologne-on-the-Rhine, Germany, for improvements in pianos and pianinos. Dated May 24, 1882.
- „ 2477. J. Smith, of Liverpool, Baker, for improvements in and applicable to domestic fire-places. Dated May 25, 1882.
- „ 2483. W. E. Gedge—a communication from E. Cornely, of Paris, for improvements in universal embroidering machines. Dated May 25, 1882.
- „ 2486. J. M. Craisdale, of Manchester, for improved apparatus for supporting the net employed in the game of lawn tennis, also applicable for supporting clothes lines and for other similar purposes. Dated May 25, 1882.
- „ 2487. L. C. Tipper, of Balsall Heath, Worcestershire, for improvements in velocipedes. Dated May 25, 1882.
- „ 2498. A. M. Clarke—a communication from C. A. Crongeyer, of Detroit, Michigan, United States, and G. W. Busch, of Walkerville, Ontario, Canada, for improvements in door fastenings. Dated May 25, 1882.

- No. 2504. J. Simonton, o Comber, County Down, Ireland, for improvements in velocipedes. Dated May 26, 1882.
- „ 2507. A. J. Boulton—a communication from L. Bracco, of Troyes, France, for an improved hot plate or table for keeping up the heat in dishes, plates, and the like. Dated May 26, 1882.
- „ 2522. M. Staveley, of Mirfield, Yorkshire, Blacksmith, and T. Staveley, of Milnsbridge, Yorkshire, Blacksmith, for improvements in and applicable to washing and wringing machines. Dated May 27, 1882.
- „ 2584. A. D. Pentz, of Elizabeth, New Jersey, United States, now of Glasgow, North Britain, for mechanism for starting, driving and stopping sewing machines. Dated June 1, 1882.
- „ 2617. A. Greenwood, Machine Maker, and J. M. Ramsden, Mechanic, both of Leeds, Yorkshire, for improvements in sewing machines. Dated June 3, 1882.
- „ 2625. C. Spong, of 45, Arabin-road, Brockley, Lewisham, Kent, for cleaning knives by a machine constructed upon the horizontal principle. Dated June 5, 1882.
- „ 2634. C. G. Hill, of Nottingham, for improvements in pleating machines. Dated June 5, 1882.
- „ 2649. J. Helyar, of Yeovil, Somersetshire, for an improvement in a pique glove sewing machine. Dated June 6, 1882.
- „ 2680. R. Wood, and J. Whyte, both of Manchester, for improvements in or applicable to the wheels of perambulators, bicycles, velocipedes, and other vehicles. Dated June 7, 1882.
- „ 2687. Elizabeth Clark, of 5, Old Bond-street, London, for an improvement in ladies' under clothing, consisting of an adjustable arm strap. Dated June 8, 1882.
- „ 2697. C. H. Brooks, of Glenelg, South Australia, temporarily of Chancery-lane, London—partly a communication from W. Chew, of Norwood, South Australia, for improvements in means for propelling velocipedes, road carriages, and trams, applicable also to the driving of light machinery. Dated June 8, 1882.
- „ 2703. J. M. Morris, of Liverpool, for improvements in apparatus for heating or preserving the temperature of tea, coffee, or other liquid or semi-liquid foods. Dated June 8, 1882.
- „ 2724. W. Barlow—a communication from L. Gilling and W. Köhrer, both of Stuttgart, Wurtemberg, Germany, for improvements in sewing machines. Dated June 9, 1882.
- „ 2736. R. Clayton, of Deepfields, Staffordshire, Ironfounder, for improvements in negro-pots, Dutch stoves, camp ovens, and other cooking utensils. Dated June 10, 1882.
- No. 5148. T. Steen, of Ripley, Derbyshire, for improvements in perambulators, bath chairs, and similar vehicles. Dated November 25, 1881.
- „ 5180. T. Bradford, of Manchester, for improvements in the construction of machines used for washing, wringing, and mangling, part of which invention is also applicable to churns. Dated November 28, 1881.
- „ 5200. W. Snelgrove, of Melksham, Wiltshire, for improvements in self-regulating gas burners. Dated November 28, 1881.
- „ 5211. J. Hunt, of 58, Mann-street, Walworth, London, Mechanical Engineer, and J. S. Fairfax, of 2, Lawrence Pountney-hill, London, Consulting Engineer, for improvements in sewing machines for making button-holes. Dated November 29, 1881.
- „ 5232. W. Hutchinson, of 84, Elderfield-road, Clapton-park, London, Commission Merchant, for a portable heating apparatus for the use of working men and travellers in general. Dated November 30, 1881.
- „ 5247. J. F. Walters, of 7, Queen's-road, Bayswater, London, Engineer, for improvements in machines or apparatus and in wheel pads for polishing knives, forks, and spoons. Dated November 30, 1881.
- „ 5252. H. J. Haddam—a communication from J. H. D. Everett, of Toronto, Canada, for a new or improved clothes dryer. Dated December 1, 1881.
- „ 5253. J. T. Townsend, of Coventry, Warwickshire, Bicycle and Tricycle Manufacturer, for improvements in tricycles. Dated December 1, 1881.
- „ 5284. N. K. Husberg, of Stockholm, Sweden, and of 64, Cowcross-street, London, for improvements in tricycles and quadricycles. Dated November 3, 1881.
- „ 5287. C. Beger, of Berlin, Germany, now of Percy-street, West, London, for improvements in velocipedes. Dated December 3, 1881.
- „ 5326. A. Mill, of Glasgow, North Britain, for a new or improved washing machine, also applicable for mixing, churning, and other like purposes. Dated December 6, 1881.
- „ 5337. R. Burgess, of 10, Loftus-road, Uxbridge-road, Shepherd's Bush, London, Coach Ironmonger, for a new or improved clip or holder for facilitating the carrying of parcels tied with string. Dated December 6, 1881.
- „ 5493. A. Helwig, and J. Dewdney, both of Great Winchester-street, London, for improvements in machinery or apparatus for making button-holes, in part applicable to other purposes. Dated December 15, 1881.
- „ 5594. B. J. B. Mills—a communication from N. W. Westcott, of Providence, Rhode Island, United States, for improvements in knitting machines or looms. Dated December 21, 1881.
- „ 459. E. Andrews, of 5, Market-hill, Sudbury, Suffolk, Carriage Manufacturer, for improvements in perambulators, bath chairs, and other carriages propelled by hand or manual power. Dated January 30, 1882.
- „ 877. H. Lees, of Ashton-under-Lyne, Lancashire, Watch Maker, for improvements in alarm bells for bicycles, tricycles, and other wheeled vehicles. Dated February 23, 1882.
- „ 996. R. H. Brandon—a communication from the Morley Sewing Machine Company, of Boston, Massachusetts, United States, for improvements in machines for sewing flat buttons to fabrics and other materials. Dated March 1, 1882.

Letters Patent have been issued for the following :—

- No. 5106. W. E. Price, and W. D. Overton, of Hampton Wick, Middlesex, Engineers, for improvements in velocipedes, parts of which are applicable to other vehicles. Dated November 22, 1881.
- „ 5113. W. T. Eades, of Birmingham, Mechanical Engineer, for certain improvements in the construction of velocipedes. Dated November 23, 1881.
- „ 5139. F. Beauchamp, of Edmonton, Middlesex, for improvements in tricycles, velocipedes, and other such like vehicles or carriages. Dated November 24, 1881.
- „ 5142. L. A. Groth—a communication from C. Ostlund, Engineer, of Stockholm, Sweden, for improvements in apparatus for warming and heating. Dated November 24, 1881.

- No. 1052. T. H. Ward, of the firm of Lee, Howl, Ward and Howl, of Tipton, Staffordshire, Engineers, for an improved velocipede or vehicle for locomotion by manual power. Dated March 4, 1882.
- „ 1108. W. R. Lake—a communication from J. Jenkins, of Mont Clavi, New Jersey, United States, for improvements in safety pins. Dated March 7, 1882.
- „ 1150. J. Osmond, of The Priory, Lee-road, Kent, for improvements in the apparatus for holding and adjusting lawn tennis nets. Dated March 9, 1882.
- „ 1224. G. Doolittle, of Bridgeport, Connecticut, United States, for improvements in mechanism for sewing and manufacturing furniture tufts adapted for use as an attachment to sewing machines. Dated March 14, 1882.

PATENTS WHICH HAVE BECOME VOID :—

- No. 1832. H. D. Fellowes, of Bayswater, London, Gentleman, for improvements in gas and lamp burners. Dated May 8, 1879.
- „ 1898. K. Trobach, and F. Rosenzweig, of Berlin, Germany, Engineers, for improvements in machines for turning over leaves. Dated May 13, 1879.
- „ 1906. C. Reese, of Baltimore, Maryland, United States, Merchant, for improvements in mangles or machines for ironing or calendering. Dated May 13, 1879.
- „ 1965. J. L. Clarke, of the Common, Ealing, London, Clerk, for an improved method of and apparatus for supporting candle shades. Dated May 16, 1879.
- „ 2064. R. J. Sargeant, of Leicester, Hosiery Manufacturer, for improvements in the manufacture of knitted shirts, vests, and jerseys. Dated May 23, 1879.
- „ 2086. A. J. Tracy, of Compton-street, Clerkenwell, London, for a new or improved machine for gathering, flattening down, and ironing kilted fabrics. Dated May 26, 1879.
- „ 2134. D. Younger, of Woolwich, Kent, Smith, for an alarm, hinge. Dated May 28, 1879.
- „ 1703. J. Keats, of Newcastle-under-Lyne, Staffordshire, Boot Manufacturer, and A. Greenwood, of Leeds, Yorkshire, Engineer, for an improved construction of hook for sewing machines. Dated May 7, 1875.
- „ 1785. H. E. Newton—a communication from A. D. B. Wolff of the firm of Pleyel, Wolff, et Compagnie, of Paris, for improvements in pianofortes. Dated May 13, 1875.
- „ 1842. J. Pickard, of Leeds, Yorkshire, for an improved casing or covering for cops of cotton, silk, or other threads to be used on sewing machines or for hand sewing. Dated May 19, 1875.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1d. each extra.

	1881.	s.	d.
No. 4091. J. Adams, tricycles, &c.	6	...	...
„ 4392. S. Fingland, knitting machinery	2	...	...
„ 4426. H. J. Haddan, knitting machines	10	...	...
„ 4430. T. T. Harrison, bicycles	2	...	...
„ 4431. H. E. Newton, tables and cabinets for sewing and other machines, &c.	6	...	...
„ 4434. A. M. Clark, tricycles... ..	6	...	...
„ 4466. W. Dexter, warp or straight bar knitting machines &c	6	...	...
„ 4470. J. Middleton, and G. J. Scott, children's cots, rocking boats, &c.	6	...	...
„ 4477. A. W. Turner, gymnastic apparatus	10	...	...
„ 4492. W. Harrison, velocipedes, &c.	8	...	...
„ 4497. H. J. Haddan, wringing and mangling machines...	6	...	...

No. 4518. H. H. Lake, apparatus for driving or operating sewing machines by electricity	2	...	...
„ 4542. F. W. Eické, velocipedes	4	...	...
„ 4548. S. Hall, velocipedes	8	...	...
„ 4554. M. H. Pearson, sewing machines	2	...	...
„ 4587. J. Dowling, plaiting machines	6	...	...
„ 4600. G. Singer, velocipedes... ..	6	...	...
„ 4618. G. Nobes, preventing the purloining of letters from letter boxes	4	...	...
„ 4639. T. B. Giffen, and J. Dodd, sewing machines	2	...	...
„ 4663. E. P. Alexander, burners for gas stoves for cooking &c	6	...	...
„ 4666. C. M. Sombart, apparatus for mincing meat, &c	6	...	...
„ 4668. A. H. Hearington, stoves for cooking and heating purposes, &c.	6	...	...
„ 4673. J. Melvin, machine for mixing and kneading	6	...	...
„ 4678. S. Léoni, apparatus for heating, cooking, &c., by gas... ..	6	...	...
„ 4692. J. Benson and T. Wainwright, apparatus applicable to doors and windows for excluding draughts, dust, &c.	2	...	...
„ 4706. H. C. De Berenger, manufacture of knife boards	2	...	...
„ 4722. F. W. Jones, velocipedes, &c.	6	...	...
„ 4759. F. Wolf, apparatus for testing milk... ..	2	...	...
„ 4769. J. Deacon, mangles	2	...	...
„ 4772. J. Darling, oil, tallow and grease lamps	2	...	...
„ 4782. E. H. Smith, sewing heavy materials, such as sail-cloth, &c.	6	...	...
„ 4811. F. M' Ilvenna, apparatus for displaying clothing and other articles in shop windows, &c.	6	...	...
„ 4817. L. A. Groth, spooling apparatus for sewing machines	2	...	...
„ 4829. A. Archer, tricycles, &c.	8	...	...
„ 4846. O. M. Chamberlin, pleating and frilling machines	6	...	...
„ 4860. J. K. Starley, fastening elastic tyres to velocipede wheels, &c.	2	...	...
„ 4865. S. Armstrong, forks of bicycles, &c... ..	6	...	...
„ 4892. A. M. T. Amherst, chair for invalids	2	...	...
„ 4917. L. E. Broadbent, bicycles, &c.	1	0	...
„ 4928. J. Thompson and C. Morris stoves for heating sad-irons, &c	2	...	...
„ 4937. F. R. Baker, spring hinges and door springs	6	...	...
„ 4951. A. Fortune, washing machines	2	...	...
„ 4956. R. H. Lea, and G. Singer, velocipedes	2	...	...
„ 4960. C. D. Abel, cleaning carpets, &c	6	...	...
„ 4971. C. W. Torr, gas stoves... ..	6	...	...
1882			
No. 465. J. Byfield, knitting machines	8	...	...
„ 650. H. A. Dufrené, velocipedes	4	...	...

A NEW METAL LAST.

Mr. Markie, of Wood-street, Tabernacle-walk, Finsbury, has just invented a new metal last, a very valuable improvement on the old ones, and yet so simple that it is a marvel it has never been thought of before. The speciality of the last is that it is constructed so as to ensure a perfect fit heel and ankle, and the sides of the shoe bind firmly on the foot, instead of gaping open as they usually do, unless made by very expert workmen. By this invention an ordinary hand can make a shoe fit perfectly, tight to heel and ankle superior to all expert craftsmen, while the cost of the lasts is but a few pence more than that of the old ones, and there is no danger of breakage.

When a girl is twenty she feels very easy on that score. It's only when she scores another that she begins to wonder who invented wrinkles.

“Kind words never die.” How bitterly does a man realize that terrible truth when he sees all the kindest words he ever wrote in his life glaring at him from his letters produced in a breach of promise case.

THE SINGER COMPANY'S NEW FACTORY AT KILBOWIE, DALMUIR, NEAR GLASGOW.

By invitation of The Singer Manufacturing Company about one hundred gentlemen proceeded on the 18th ult., by special train from Glasgow to Kilbowie, Dalmuir, to be present at the ceremony of breaking the ground for the Company's new factory.

The Company have for many years had extensive premises in James-street, Bridgetown, Glasgow, but their business has so much increased that for some time these premises have been quite inadequate. It was decided, therefore, to erect new works, and for this purpose the Company purchased a short time ago some 46 acres of land at Kilbowie, situate between the railway at Kilbowie, and the Forth and Clyde Canal.

The works are to be on a most comprehensive scale. The main block of buildings will be 800 ft. in length by 50 ft. in width, three stories high, with three connecting wings, each 75 ft. by 50 ft., and will have a floor area of 273,750 square feet. There will be a foundry 450 ft. long by 360 ft. wide, with a foundry store, and annealing departments 290 ft. long and 100 ft wide, besides other buildings for the work of japanning and ornamenting the machines.

For the manufacture of cabinet work there will be two buildings constructed, each 350 ft. in length and 50 ft. wide, three stories high. From these buildings are to be a couple of wings 75 ft. long and 50 wide, having a total floorage of 127,500 ft.

There will be other buildings erected, giving ample accommodation for packing goods and for storage.

A branch of the North British Railway will be laid into and round the works, and a pier is to be formed at the side of the canal in close proximity to the stores.

The works are to be constructed throughout with greatest regard for the welfare of the workpeople employed, of which there will be upwards of 3,000, and the sanitary arrangements and protection from fire will be perfect.

Amongst the gentlemen present at the ceremony of the 18th were George Ross McKenzie, Esq., of New York (vice-president of the Company), George Baldwin Woodruff, Esq., (London General Manager); George Ure, Esq., Bonnybridge; the Rev. Evan Gordon; John Clark, Esq., Anchor Mills, Paisley; J. McAlpine, Esq., Hamilton; William Edgar Allen, Esq., Sheffield; Messrs. W. McEvan and A. D. Pentz, of New York; J. Hutchinson, Esq.; David Sanderman, Esq.; — Tullis, Esq.; James Fergus, Esq.; — Copland, Esq.; G. McIndoe, Esq.; James Black, Esq.; J. D. Paterson, Esq.; and A. H. McLean, Esq., Glasgow; Messrs. John Whitie, John Mitchell, G. B. Dobson, and P. A. C. MacKenzie, London; Alexander Anderson, Esq., manager; John K. Macdonald, Esq., financial manager of the Company's Bridgeton Works, together with many of the Company's Foreign and British managers including those of Madrid, Valencia, Barcelona, Paris, Milan, Genoa, Naples, Rome, Hamburg, Vienna, Berlin, Holland, Russia, Sweden, Norway, Belgium, Turkey and Greece.

Mr. McKenzie, of New York, had handed to him a silver spade with which he cut the first sod, amid hearty cheers. The Rev. Evan Gordon having offered up an appropriate prayer, the silver spade—which bore upon it the inscription, "Presented by George Ure and Co. to George R. McKenzie, Esq., of New York (Vice-President of The Singer Manufacturing Company), on the occasion of his breaking the ground for the Company's new factory at Kilbowie, Glasgow, Scotland, May 18, 1882,"—was formally presented to Mr. McKenzie by Mr. Ure in a speech of some duration, in which he alluded to the great success which had attended the business of The Singer Manufacturing Company, and to the world-renowned reputation they had obtained for their goods. Indeed, the prosperity of the Company had been almost unexampled, and he was certain all would join him in the hope that the factory which was to be reared on the ground upon which they stood would carry the Company still further, on the tide of success.

Mr. McKenzie expressed his acknowledgements for the presentation, and his thanks for the good wishes which accompanied it. Three hearty cheers for the officers of the Company were given, and the party then proceeded round the boundaries of the site.

On returning to Glasgow a dinner was served at the George Hotel George-square, Mr. McKenzie presiding. Messrs. Alexander Anderson and John K. Macdonald were orators.

After the covers had been removed, the Chairman proposed the toast of "The Queen," remarking that there were present representatives from almost every European nation, and he was certain they would drink the toast as heartily as the most enthusiastic Englishman or Scotchman.

The toast having been drunk with the usual honours, the Chairman gave the toast of "The President of the United States," and expressed his belief that those present would with equal enthusiasm drink to the head of the American nation.

This toast, which was received amid ringing cheers, having been duly honoured,

Mr. George B. Woodruff submitted the toast of "The President, Vice-President, and Directors of the Company," and in referring to the origin of the business, said that in 1850 Mr. Singer, a poor working mechanic, began to make sewing machines in America, and struggled for a long time in a very feeble way to perfect and sell the machines. Some time afterwards Mr. Edward Clark, a legal gentleman (now President of the Company), became identified with Mr. Singer, and out of this partnership grew "The Singer Manufacturing Company." The business was for a considerable time looked upon as one that would never be a commercial success, but they had only to look at the extent of the works in this country and in America, and the number of branch agencies, of which there were 323 in Great Britain alone, to gather whether it had been a success or not. The number of machines sold by the company exceeded the magnificent total of 4,000,000. Last year the sales amounted to 561,036 machines, being at the rate of 10,800 per week, or 1,800, for every working day.

The Chairman proposed "Continued Prosperity to the Company's Business," which was responded to by several of the managers; after which the toasts of "Success to the New Factory" and "The Guests" were given. "Auld Lang Syne" was sung, and the company broke up.

THE "LESLIE."

The Leslie Revolving Shuttle Sewing Machine is constructed with a high and finely proportioned arm, placed upon a bed plate of graceful pattern. The arm contains the main or driving shaft of the machine, and this shaft is provided with a finely nickel plated hand wheel, which is so constructed that it is always fast to the shaft, while at the same time the application of a simple device prevents the machine from running backwards, if the treadle should be operated in the wrong direction. This allows the operator to wind the bobbin without running the machine or removing the work or shuttle. The "heart cam" commonly used in sewing machines for driving the needle bar, and which is always the cause of much noise and friction, is entirely omitted in the Leslie. Its place is supplied with a simple cross-head, having a straight groove, in which a hardened steel sliding block is fitted, which sliding block is actuated by a steel crank pin placed in the disk which revolves on the end of the main or driving shaft. By this peculiarity of construction, the uneven motion of the needle bar, common in most sewing machines, is avoided, and a motion is communicated to the needle at once regular, and without the commonly called "stops" or "second motions." The needle itself is the shortest ever used in a lock-stitch sewing machine. This is acknowledged by all those who are skilled in the art to be a most desirable quality, as the shortness of the needle insures protection from breakage, and prevents the danger of dropping stitches which is often caused by the needle springing away from the shuttle. The needle is made entirely self-setting and can be put into or taken from the machine without the use of a screw-driver. The presser-bar is so arranged and constructed that it can be adjusted

to lift more or less as required for the various kinds of work, and the presser-foot and attachments are made so that no wrench or screw-driver is required to place them in position. An oil cup is attached to the needle bar to catch any surplus oil that accumulates, and prevents the thread or work from being soiled. The needle bar is so constructed that all wear may be compensated for, and its accuracy continually assured. The "take-up" is a positive one, and is placed on the inside of the face plate, under the arm, completely out of the way of the operator, and at the nearest possible point to the needle and tension. This arrangement is considered very desirable, as it avoids all danger that may arise from the stretching of any elastic kind of thread that it may be found necessary to use on some peculiar kind of work, and is found of the greatest benefit when sewing with silk. A high degree of delicacy and precision is insured in connection with the movement of the "take-up," on account of its being actuated by a hardened steel roller which receives its motion directly from a disk revolving upon the main shaft of the machine. *Sewing Machine News.*

TAKING DOWN, PUTTING GEARS INTO AND TIMING THE SINGER MACHINE.

By SLACK THREAD PIN.

The following method of taking down, putting gears into and timing the Singer New Family machine is clear, simple, and can be readily put into practice by beginners.

Remove one after another the following parts: Part No. 89, or the belt cover; part No. 82, or the side of the arm.

Then take out the pins in the gears and remove part No. 83, or the face plate.

Be careful to mark each end of the shaft, and also the cam-wheel, and the balance-wheel, so that in setting up you will be guided in putting them on exactly as they came off.

Remove the pin in the balance-wheel, and with a wooden punch drive part No. 84, or the horizontal shaft, to the left until the balance wheel comes off.

Take out the pin in part No. 35, or the cam-wheel, and drive the shaft to the right until free from the machine.

Next remove part No. 53, or the pitman, to the shuttle-carrier, and take the pin from part No. 77, or collar for the upright shaft, marking for future guidance both the collar and shaft. Drive the shaft down, take it out of the machine, and fit on the gears. Proceed backwards in regular order in putting the parts back again in their proper places.

Put a needle in accurately for sewing. Fasten gears to the shafts with set screws, using No. 100, or screw for pitman stud.

Turn the balance-wheel towards you until the blunt end of the shuttle, when moving to the left is 9-16 of an inch in view from the left edge of the throat plate, with blunt end close to the carrier.

Hold the carrier fast. Loosen the set screw in the gear on the horizontal shaft, and turn the balance-wheel towards you until the eye of the needle on its downward motion is on a line with the top of the throat plate. Fasten the gears with set screws, leaving a little lost motion between the gears, which can be taken up by drilling and pinning so as to make them fit perfect.

To prevent turning while drilling put a wooden key each side of the shaft. Use a twist drill, the size of the pin at the small end—try the drill in the old gear where the point of the pin came through. The twist drill will give the proper taper without reaming.

Drill close to the shoulder of the gear and at right angles from the old hole in the shaft.

Use a little fine emery and oil on the cogs; run the machine a few minutes; clean the gears with a little kerosene oil—and then the machine will run as easily and smoothly as when new. *Sewing Machine News.*

MESSRS. BRADBURY AND CO., Oldham, have removed their Glasgow warehouse from North Coburg-street to more central premises at 27, Queen-street. They have also opened a new depot in the Kingsland-road, London.

AGRICULTURAL SHOWS AND EXHIBITIONS.

July to December, 1882.

- July 10, 11, 12, 13, 14—Royal Agricultural Society of England—Show at Reading. Entries for Implements closed. Secretary, Mr. H. M. Jenkins, 13, Hanover-square, London, W.
- July 11—Banffshire Agricultural Society—Show in the Duff House Grounds, Banff. Secretary, Mr. Robert Duncan, Banff, N.B.
- July 12, 13—Nottinghamshire Agricultural Society—Show at Mansfield. Secretary, Mr. John Barron, 16, Market-street, Nottingham.
- July 18—Malton Agricultural Society—Meeting at Malton. Entries close July 1. Secretary, Mr. William Constable, Newbegin House, Malton.
- July 18—Stranraer and Rhins of Galloway Agricultural Society—Show at Stranraer. Entries close July 8. Secretary, Mr. David Guthrie, Union Bank, Stranraer.
- July 19—Bedfordshire Agricultural Society—Show at Luton. Entries closed June 17. Secretary, Mr. H. R. J. Swaffield, Amphill.
- July 19, 20, 21—Lincolnshire Agricultural Society—Show at Sleaford. Secretary, Mr. S. Upton, St. Benedict's-square, Lincoln.
- July 19, 20, 21—Shropshire and West Midland Agricultural Society—Show at Ludlow. Entries closed June 17. Secretary, Mr. Alfred Mansell, College-hill, Shrewsbury.
- July 20—Durham County Agricultural Society—Show at Sunderland. Secretary, Mr. Thomas Wetherell, 26, Fawcett, Sunderland.
- July 20—Royal Northern Agricultural Society—Show at Aberdeen. Entries closed June 16. Secretary, Mr. Alexander Yeates, Advocate, 89, Union-street, Aberdeen.
- July 21—Huntingdonshire Agricultural Society—Show at St. Neots. Entries closed June 30. Secretary, Mr. Arthur G. Dilley, Market-place, Huntingdon.
- July 24 to August 5—Horticultural Exhibition—Agricultural Hall, London. Secretary, Mr. Sherley Hubbard, F.R.H.S.
- July 25, 26, 27—Gloucestershire Agricultural Society—Show at Cheltenham. Entries closed June 12. Secretary, Mr. E. Trinder, Cirencester.
- July 25, 26, 27, 28—Highland and Agricultural Society of Scotland—Show at Glasgow. Entries closed, Implements, June 1; Stock, June 14. Secretary, Mr. F. N. Menzies, 3, George IV. Bridge, Edinburgh.
- July 26, 27—Leicestershire Agricultural Society—Show at Leicester. Entries closed June 24. Secretary, Mr. J. T. Ardon, Syston, Leicestershire.
- July 28—Shropshire Agricultural Society—Show at Newport. Entries closed for cattle, &c., June 28; Implements, July 19.
- July 28—Driffield and East Riding Agricultural Society—Show at Driffield. Secretary, Mr. William Drinklow, Great Driffield.
- August 1, 2, 3—Yorkshire Agricultural Society—Show at Halifax. Entries closed June 24. Secretary, Mr. Marshall Stephenson, Blake-street, York.
- August 1, 2, 3—Halifax and Calder-Vale Agricultural Association—Show (this year amalgamated with the Yorkshire Agricultural Society's Show) at Savile Park, Halifax. Secretary, Mr. J. T. Learoyd, Square-road, Halifax.
- August 3—Norton Farmers' Club and East Derbyshire Agricultural Society—Show at Chesterfield. Secretary, Mr. Thomas Wardle, Chesterfield.
- August 3—Cognetdale Agricultural Society—Show at Warkworth, Northumberland. Entries close July 13. Secretary, Mr. Robert Donkin, Haw Hill House, Rothbury.
- August 5—Border Union Agricultural Society—Show at Kelso. Entries close on July 14. Secretary, Mr. John Usher, Kelso, N.B.
- August 5—Lauderdale Agricultural Society—Show at Lauder. Entries close July 26. Secretary, Mr. Thomas Broomfield, Solicitor, Lauder.
- August 10—Northumberland Agricultural Society—Show in Alnwick Park. Entries close July 20. Secretary, Mr. Henry Wallace, Trench Hall, Gateshead.

August 16—Beamish, Pontop, and Consett Agricultural Society—Show at Chester-le-Street. Entries close August 2. Secretary, Mr. John Richards, Beamish, Chester-le-Street.

August 18—Northern Counties—Joint Show, at Inverness. Secretary, Mr. D. A. MacBean Ross, Tain, N.B.

August 19—Keighley Agricultural Society—Show at Keighley. Entries close August 9. Hon. Secretary, Mr. S. Clapham, Devonshire-street, Keighley.

August 24 to September 7—Domestic and Sanitary Exhibition Agricultural Hall, London. Secretary, Thomas Brooks, 20, Wormwood-street, E.C.

August 30 Airedale Agricultural Society Show at Bingley. Entries close August 21. Secretary, Mr. Jesse Thompson, Main-street, Bingley.

August 30 Cheshire Agricultural Society Show at Nantwich. Entries close August 12. Secretary Mr. William Beckett, Oulton Park, Tarporley.

August 31 Vale of Corway Agricultural Society Show at Llanrwst. Secretary, Mr. H. Pierce, Bodynr, Llanrwst.

September 5 Chipping-Norton, Stow, and Moreton Agricultural Society Show at Shipeton-on-Stour. Secretary Mr.

September 5 Wolsingham and Wear Valley Agricultural Society Show at Wolsingham. Secretary, Mr. Alfred Pickard, Wolsingham, via Darlington.

September 5, 6, 7, and 8 Royal Manchester, Liverpool, and North Lancashire Agricultural Society Meeting at Preston. Entries for Implements close August 1. Secretary, Mr. Thomas Rigby, 1, Old Ropery, Corn Exchange, Liverpool.

September 6, 7 Derbyshire Agricultural Society Show at Derby. Entries close, for Stock, August 11; Poultry, August 25; Implements, &c., August 27. Secretary, Mr. George Corbett, Cock-pit-hill, Derby.

September 8 Stanhope Agricultural Society Show at Stanhope. Entries close August 26. Secretary, Mr. J. Vickers, jun., Frosterley, via Darlington.

September 12, 13 Staffordshire Agricultural Society Show at Lichfield. Entries close August 12. Secretary, Mr. W. Tomkinson, Newcastle-under-Lyme.

September 13 Wigton District Agricultural Show Show at Wigton. Secretary, Mr. John Barns.

September 13 Wayland Agricultural Society Show at Watton. Entries close August 31. Secretary Mr. Henry F. Grigson, Watton, Norfolk.

September 14 to 23 Leather Trades Exhibition Agricultural Hall, London. Secretary, F. T. Laurance, Esq., 36, St. Thomas-street, London, S.E.

September 14 Waterford Farming Society Show at Waterford. Entries September 7. Hon. Secretary, Mr. R. Blee, Waterford.

September 14, 15, 16 Wirral and Birkenhead Agricultural Society Show at Birkenhead. Secretary, Mr. J. Slater Lewis, Birkenhead.

September 15 Carmarthenshire Agricultural Society Annual Meeting and Exhibition of Stock, at Carmarthen. Secretary, Mr. D. Prosser, White House Farm, Carmarthen.

September 19 Midland Agricultural Society Show at Alfreton. Entries close August 26. Hon. Secretary, Mr. Arthur Milner, Stretton, near Alfreton.

September 19, 20 Warwickshire Agricultural Society Show at Warwick. Secretary, Mr. F. H. Moore, Warwick.

September 20 Banbury Agricultural Society Meeting at Banbury. Secretary, Mr. B. W. Alpin, Banbury.

September 27 to October 10 The Dairy Show Agricultural Hall, London.

September 27 Royal South Bucks Agricultural Association Show on the Farm of Mr. P. Headington, Chippenharn, near Slough, Secretary, Mr. R. H. Barrett, Slough, Bucks.

September, 29 Oswestry District Agricultural Society Show at Oswestry. Secretary, Mr. E. B. Smith, Oswestry.

October 3, 4, 5, 6 British Dairy Farmer's Association Show at the Agricultural Hall, Islington, London, N. Secretary, Mr. H. S. Holmes Pegler, Royal Court Chambers, 191, Fleet-street, London, E.C.

October 16 to 21 Brewers and Licensed Victuallers Appliances Agricultural Hall, London, N. Secretary, Mr. Robert Dale.

October 18 Chertsey Agricultural Society Show at Chertsey. Secretary, Mr. W. Kempson, Chertsey.

November 16, 17, 18 Norfolk and Norwich Agricultural Society Show in new Agricultural Hall, Norwich. Entries close October 21. Secretary Mr. H. F. Euren, Mercury Office, Norwich.

November 23, 24 Chippenharn Agricultural Society Show at Chippenharn. Secretary, Mr. W. D. Little, Lanhill, Chippenharn.

November 25, 27, 28, 29, 30 Birmingham Agricultural Exhibition Society Fat Cattle Show, Bingley Hall, Birmingham. Secretary Mr. J. B. Lythall, Bingley Hall, Birmingham.

December 4, 5, 6, 7, and 8 Smithfield Club Cattle Show at the Agricultural Hall, Islington, London. Hon. Secretary, Sir B. T. Brandreth Gibbs; Assistant Secretary. Mr. H. J. Hine, 12, Hanover-square, London, W.

December 12 Carmarthenshire Agricultural Society Show at Carmarthen (Fat Stock, Poultry, and Dairy Produce). Secretary, Mr. D. Prosser, White House Farm, Carmarthen.

December 14, 15, 16 Canterbury Cattle Show, at the Agricultural Hall, Canterbury. Secretary, Mr. George Slater, Canterbury.

SLIPPER PATTERNS.

The machines used for embroidering slippers are the Bonnaz, which will embroider about three pairs an hour, and the Swiss machine, which will weave nine yards of material, say about eight dozen uppers at one time. The pattern is drawn on paper and the operator follows it, and weaves imitations of flowers, fruits, sporting materials and any other fashionable designs in colored wool or silk.

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EARLY CLOSING ASSOCIATION, 1881-82. ANNUAL REPORT.

Again the Board of Management welcome the occasion on which it becomes their duty to state how the work undertaken by them has progressed during another year, and how the moneys entrusted to their care for the support of that work have been expended. The Board are able to place before their supporters a record of useful measures undertaken with great advantage to the general position of the Early Closing movement. While they have not largely engaged in work likely to curtail the hours of labour in particular houses of business, they can nevertheless point to several gains obtained in various quarters for a numerous body of assistants. But during the past year the Board have seen the necessity of working for the Early Closing movement as it effects the whole country, rather than confine their agency to particular parts of the metropolis. The last report of the Board indicated a change of policy in this respect, and stated that the new departure "had tended to make the society a greater organizing and administrative body than it had hitherto been." The history of the movement during the year under review testifies that the Board have taken a right view of the work to be done for the greatest good of the greatest number. At long intervals in years gone by, it would seem that little action was taken in the Early Closing movement outside the district in which the Early Closing Association was for the time engaged. And even here the interest excited, in some instances, did not appear to be very great. At present the Board regard, with great satisfaction abundant signs of an interest, almost national, which now obtains on the question of Early Closing. They have recently received appeals from towns as widely separated as Swansea and Gravesend to constitute the parent Society a national organization, with power to affiliate local branches, and employ a travelling agent. Agitation, in its healthiest form, is ripe in numerous quarters, and it may be justly claimed that the society's work during the year under review has been a principal factor in securing this result. The Board earnestly hope that the strong feeling roused against the late hour system will day by day increase until it swells into a torrent of indignation which shall sweep that deplorable system away, and carry to the whole of the society's constituency the same immunity from shameful overwork which other sections of the community enjoy. That such a hope may not appear to sanguine, the Board recall the fact that a few years prior to the society's formation the assistants engaged in the first houses in London petitioned their employers to close their premises at nine o'clock in winter, and ten in summer. It is not so many years ago that a staunch friend of the Early Closing movement, Mr. James Shoolbred, stated at one of the Society's meetings it would be a happy thing if houses of business similar to that with which he was connected could close at nine o'clock on Saturdays. Messrs. Shoolbred's and many other houses now close at two o'clock on Saturdays, although the Saturday half-holiday for wholesale and retail trade was then held to be a Utopian idea. The Board do not wish to dwell on the condition of tens of thousands of assistants to-day when compared with that of their predecessors thirty or forty years ago, but they do wish to point out that the vast improvements effected have been the work of comparatively few men. The bulk of tradesmen and assistants have had neither lot nor part in it, and, on the facts to be inferred from this statement, the Board base their belief that overwork in shops and warehouses may be swept away, when the necessary wide determination is aroused on the part of those who endure it. In the opinion of the Board, the Early Closing question has come to be very much the question of money. The quarter of a million persons for whom the society is working in London alone, each subscribing one penny per week, possess a power of raising upwards of £50,000 per annum. Who shall say that such a power skilfully applied, and subsidized as it would be by generous sympathizers, would not speedily achieve the society's purpose? The society has admittedly effected great reforms with its present inadequate income. With the larger means suggested, it might revolutionize a

system which has existed to long, and which notwithstanding the reforms effected, is destroying the health and happiness of thousands of individuals.

It has been urged that to successfully remove the evils which the society is combating an instrument keener and swifter than that now in use is needed. In other words, the voluntary system adopted in the society's *modus operandi* has in some quarters been pronounced a failure. To this the Board reply that all the success which has hitherto attended their movement has been achieved by the voluntary system alone, and that to when applied only on a small scale. Hitherto the means have not been forthcoming which would enable the voluntary, or anti-coercion, system to be applied on a scale which could be said to put its efficiency to a vital test.

It must not be supposed, however, that the Board are altogether out of sympathy with those who do not adopt their own views of the case. They know that in some districts of the metropolis and provincial towns the progress of the Early Closing movement has been painfully slow. Evils which cry aloud for redress are there still endured, and such as must make those who endure them welcome any means of relief which promise to be prompt and efficacious. The Board have witnessed, not without satisfaction, a vigorous attempt made by a body of assistants in the north and east of London to shorten their hours of labour. It has furnished evidence that many assistants are prepared to abandon an attitude of apathy which has too long been characteristic of the main body. Although the society's policy has not found favour in this quarter, the Board believe it will eventually commend itself to all who work long in the movement. Events will show that many suggested remedies are impossible of attainment. The Board reluctantly dwell on these points, but they think it desirable to do so in the interests of the large class for whom they are working. The end and aim of their effects is to stamp out the late hour system. Now to do this in the quickest and completest manner has engaged many an hour's anxious deliberation. If they continue a policy which has marked the society's past history, they do so in the full conviction that it is thoroughly sound, and the only practical one. It is not the policy of the Board which is weak. The means of putting that policy into fuller operation are wanting.

The system attacked by the association cannot be defended on the ground of necessity or advantage to trade. There is the society's strength. That its objects will one day be realized may reasonably be expected. That day, however, will not arrive till the bulk of those in whose interests the society labours rise in their thousands and say, "We have too long borne the burden of oppression; we will bear it no longer." To arouse this determination the Board have spared no effort. There is reason to hope their task is being achieved. Appeals to the society for advice and assistance are steadily increasing, and the Board do not despair of the condition essential to rapid progress, namely, a largely increased income, and consequently a more powerful central association, supported by a network of local committees, being fulfilled. Bearing in mind the ruinous results of the late-hour system, as affect the minds and bodies of tens of thousands of young persons, the Board appeal for support to all classes of philanthropists that their programme may be realized sooner rather than later. Many assistants, it is true, do not help themselves so much as they might, but thousands of their number are lads and girls fresh from school, and these may not unreasonably appeal to the public for aid in abolishing evils which are a disgrace to Christian England.

A tall, long-haired, cadaverous-looking man called on the editor the other day, with a large roll of manuscript under his arm, and said very complacently: "I have a trifle here which treats of a new method of tanning. It is intended to completely revolutionize all the present methods. It was written by a scientific friend of mine, who is master of the subject, and I would like to have you insert it if you have room." "Plenty of room. Just insert it yourself," replied the editor, gently pushing the waste-paper basket towards him.

MR. PLATT'S PUBLICATIONS.

JUST PUBLISHED, PROGRESS, by JAMES PLATT,
Author of *Business, Morality, Money, Life, and Economy.*

CONTENTS:

Introduction—Casualty—Acquisitiveness—Capital—Free Labour—
Employment—Technical Education—Production—Distribution—Progress—
Concluding remarks.

ONE SHILLING.

"TRUE progress needs clear perception of things as they are, the power to see and understand what is seen. There can be no progress by people or nations without obedience to the law of healthy development of the best parts of our nature; a steady and persistent struggle after 'more light'; the earnest desire for 'truth'; an invincible determination to leave the world better than we found it; an onward and upward progress achieved by a knowledge of the laws that cause success, and faithful observance thereof. The philosophy based upon 'cause and effect' suits all ages, all climes; it satisfies and stimulates. The point which yesterday was invisible is its goal to-day, and will be its starting-point to-morrow. It is a creed that ever urges mankind on, which never rests, which has never attained, which is never perfect. Its aim is 'progress,' for ever and ever progressing. Its belief is that there is nothing human life that is impossible that may not come to pass; nothing that has been done by the life of men but that all men might do; nothing that has once occurred that may not reproduce itself again. It has become essential for the further progress of mankind that they be taught to perceive the regular action of eternal principles, be trained to perceive that 'all effects are due to causes.'"—(Page 8.)

"THE cause and effect theory puts aside the conflict between science and religion, and substitutes a creed in harmony with every new discovery of science and surrounding nature; it is upheld by, and satisfies, our reason, morality, righteousness; it tells men they must strive for healthy bodies and healthy minds; their hands must be clean, their minds pure, if they want peace and happiness. You may say that the idea is not practical, while it may be that the world is not yet ready for it, but year by year the people will grow wiser, and the upward progress of the latter thought will be marvellous, the people recognising that it is not a myth, but a fact, that the sins of the fathers are visited upon the children, daily, hourly, inevitably; and that, if a man wishes his descendants to escape punishment—if he has a desire to escape it himself—he must walk circumspectly. It is no use for the drunkard, the improvident, or the profligate to ask for mercy, or to say he repents, on the day of his death, too late to mend; he has sinned, he has broken the laws of health or morality; the effect will follow as certain as the night follows the day; as we sow, so shall we reap." Accept as a truth, that no man or woman can lead an immoral or dishonest life without punishment ensuing. They may be sorry, may repent; the anguish and remorse is part of their punishment; the consequences of their wrong-doing cannot be escaped; some one must be—punished."—(Pages 9 and 10.)

"I AM as anxious for the moral and social amelioration of the condition of mankind as anyone, but think the object can only be attained by 'removing the causes that impede and check the development of man's intellectual and moral nature'; and I rely wholly and solely on man's doing for himself what theologians teach men to ask God to do for them. I do not ask men to be 'saved,' but to have an abhorrence of the social and moral hideousness that surrounds them. I do not ask men to excuse themselves under the plea of 'being born in sin,' the innate depravity of human nature, man's incapacity to raise himself, the necessity for a 'vicarious sacrifice,' but I unhesitatingly assert that if man be depraved, it is his own fault; that he has the power to rise superior to the temptations that surround him; that he is punished for every sin of commission or omission by the laws of his nature."

"The old belief lowers man and crushes his aspirations; by putting his advancement upwards outside of himself; makes him a mere puppet, a sport for the inscrutable dispensations of Providence. Blind faith is honoured above the sublimity of acts. The new system entirely reverses this; it raises man's self-respect, gives a dignity to his nature, stimulates his desire to observe and think, to progress, by telling him plainly that all advancement rests with himself alone; encourages him, by explaining that by the inevitable action of God's laws, every effort towards makes him stronger for still climbing upwards; that obedience to law will slowly but surely remove the ills that have been inherited through the disobedience of his predecessors and his own."—(Pages 10, 11, and 12.)

PROGRESS, ECONOMY, BUSINESS, MORALITY, MONEY, LIFE. To be had of the Publishers, SCOTKIN, MARSHALL, & Co., Stationers' Hall, London, E.C.; or of any Bookseller in the Kingdom, and to be had at the Railway Bookstalls of SMITH & SON'S, and at WILKINS & Co.'s Railway Bookstalls.

MR. PLATT, 77, St. Martin's Lane, London, W.C., will send a copy of either **BUSINESS, MORALITY, MONEY, LIFE, ECONOMY, or PROGRESS,** post free for 1s; or six books post free for 6s.

"THE appeal to the masses to touch property requires the greatest care; and statesmen should remember this fact, that, up to the present moment a want of respect for, or equality in property, has meant the same thing as savagery, and that respect for, and inequality in property, has always coexisted with what we mean by civilization; it has always, that is, coexisted with every kind of progress. Do not be misled by those good-hearted but bad advisers who are to be considered before wealth; they would free trade, machinery, letting 'a limited class have possession of the land,' &c., is a crime against humanity. It is not true. Free trade, machinery, rent left to the value land fetches in the open market, support more and not fewer inhabitants, all inventions, the removal of any restrictions or monopoly, the sacredness of life, the security of property, the inviolability of contracts, the more a nation recognises its duty in fulfilling all its obligations as a sacred duty—these are all conducive to peace and prosperity, all rouse man's highest faculties, urge him upward. It is not the spendthrift, but the thrifty, that helps forward progress; to acquire, to possess, to increase the national capital, is essential for progress in the arts, for progress in the sciences, for progress in the conquest by mind of matter. Every heritage of thought, or beauty, or legal wisdom, that has come down to us from the past, has come down to us from the free trade, free property, equality, and divided into rich and poor, privileged and unprivileged. There is not one of the great civilizations of the past but tells with a solemn plainness this hard truth. Babylon and Egypt, Athens and Rome, and modern Europe through all its changes, are all unanimous and unequivocal in their witness to the truth of this law of nations, 'inequality,' and that the steady progress of civilization has depended upon, as it can only subsist by, the sacredness of life and property by every member of the community."—(Pages 87, 88.)

"FROM the earliest period man's courage has been daunted by the perception that, though it might conquer an evil thing, that thing was pretty sure to return. Darkness might vanish before the dawn, but it returned; the storm cloud cleared away, but it came again; the sickly season might pass, but it came back; the cancer was eradicated only to reappear; the tyrant might be slain, tyranny remained; the struggle seemed hopeless, the doctrine of despair led up to that of 'fate.' The greatest obstacle to 'progress' in every clime and every age, has been 'superstition,' kept alive by that deadly poison, 'ignorance'—the support of 'dogma and priestcraft,' the cause of 'intolerance,' that plague of the past. Yet mankind marched on, nothing doubting, step after step, without knowing whither; the spirit of humanity keeping alive hope of a better future within them, until, after a long and terrible battle, 'truth' has conquered; liberty, peace, justice, reason, conscience, science, have taken root; and the shoots of the upns tree planted by the hands of dogma and priestcraft in every part of the earth will soon disappear, when mankind learns 'that nature's laws are eternal, and that her small still voice, speaking from the inmost part of us, shall not, under terrible penalties, be disregarded.' Believe, if you like, that divine love came down to take on itself our sins; in 'life' we find there is no Saviour to do the like for us; we shall individually suffer for our mistakes and weaknesses; and the nation must suffer that, by its politics, 'curbs,' rather than fosters, individual efforts onwards and upwards."—(Pages 182, 183.)

BUSINESS takes up the position that if all men cannot succeed in making a fortune, no one need fail if they understand their business thoroughly, work indefatigably at it, and live thriftily.

MORALITY was written to show that "honesty is the only policy," that there can be no permanent or lasting success for individuals or nations unless they are wise enough to see that "morality," or "doing to others as they would be done by," must be the guiding spirit of their actions.

MONEY was intended to get people to think more of the circulating medium and its action by means of gold, paper money, the value of banks and cheques.

LIFE describes the impression made upon my mind in a busy career amongst all classes of men; and as it has always seemed to me that we suffered enough in this world for our manifold sins and wickedness, my object was to get my readers to try and make the most of this world by learning and reverently obeying the Creator's laws, and dismissing the next world from their minds, feeling assured they might safely leave their future in the hands of their Father in heaven.

PROGRESS has been written to indicate in a brief space the giant strides that have been made in every department of industry, commerce, and science since the last century; but its principal intent is to make men more thoughtful, more observant of what is going on around them.

"PROGRESS is written to show that human history is a record of progress. Progress is God's law, which we may hasten or retard, but cannot stop altogether. Every succeeding age starts with a record of accumulated knowledge in the arts of production; of increased wisdom, that enables each generation to get rid of some of the errors of its predecessors. We have, therefore, a continual advancement from a lower to a higher status of intelligence and well-being. We do not mark the progress that is going on; the days and years seem to repeat themselves unalterably. In reviewing the past it seems at first sight as though there were long periods of stagnation, even quietly endured for generations, to be suddenly and violently overthrown in sudden amelioration. But, like the 'little worms beneath the surface,' nature is steadily pursuing her work in her own quiet but inscrutable way. The stagnation is only apparent; there is being acquired a silent accumulation of forces, whose gathered power will, in heaven's own time, and by the inevitable operation of nature's laws, remove the barriers to man's progress. For ages it seemed weary work; man seemed helpless against the forces of nature and the power of control; the brain of man was refused the power of thought, except in the 'orthodox' manner. No sooner was 'thought free,' no sooner were the barriers which prevented progress overthrown, than we see in the nineteenth century a progress rapid beyond all precedent; the stream of human development received into its sluggish currents a mighty impulse for the amelioration of the condition of mankind."—(Page 124.)

"THERE is a religion that can be taught in all schools, adapted for all men—the religion of progress, the religion of nature, the religion of duty, of right, of good, of love—which explains and prepares men's mind for seeing where their duty lies, of distinguishing good from evil, and why it is good or evil. It is useless merely to root up error, leaving one's soul as dry and barren and useless as a senile shrub; 'take away the falsehoods of life, but replace them with truths.' It must be right to improve things in the world, to make it better for man and beast, to do all we can to increase happiness, and refrain from doing anything that will diminish it."—(Page 192.)

"THE time has come when mankind must face the question boldly and openly, how the 'Creator governs the world we live in?' does 'progress' depend on the observance of God's law? Is man's religion to be known by his acts, or by his profession of belief? Are we to believe in 'cause and effect,' in 'law' invariable, inevitable, unerring law; or in destiny, fate, predestination. Divine interposition? I put this question to you plainly, because it seems to me that upon it rests our future."—(Page 200.)

N. B.—Every Tradesman should read the chapter on "Distribution," more especially pages 172 to 178, which explains fully the necessities for the "Parcel Post," and the question of carriage of parcels by Railway Companies.

MR. PLATT will send a copy of either BUSINESS, MORALITY, MONEY, LIFE, ECONOMY, or PROGRESS, post free for 1s, or the six books post free for 6s.

EXHIBITION NOTES.

INTERNATIONAL ELECTRICAL EXHIBITION AT VIENNA.—It is proposed to hold, August to December, 1883, an electrical exhibition at Vienna, the Rotunda, in the Prater, having been placed by the Austrian Government at the disposal of the influential committee which has been formed. The leading electricians of Austria, Belgium, England, France, Germany, and Holland have promised their support. A member of the Vienna committee will shortly arrive in London to make the necessary arrangements with intending English exhibitors.

EXHIBITION OF MODERN ENGLISH POTTERY.—The Council of the Society of Arts have arranged an excellent Exhibition of Modern English Art Pottery at the house of the Society, which is now open. The following firms have, on the invitation of the Council, consented to exhibit specimens of their work:—Derby Crown Porcelain Company, Messrs. Henry Doulton and Co., Lintorpe Art Pottery Company, Messrs. Maw and Co., Messrs. Minton, Messrs. Wedgwood, and the Worcester Royal Porcelain Works.

AN INDUSTRIAL EXHIBITION was held at Darlington last month, and the following among the exhibitors obtained awards:—Silver Medals.—Thomas Heron, for patent duplex gas burners; Gas Company, Darlington, for gas meters, &c.; Kenworthy and Co., for "Paragon" washing machine; F. and C. Hancock, for butter-washing machines; Cox and Falconer, York, for sewing machines; J. A. Chapman and Co., Sunderland, for sewing machines, &c.; J. Wright and Co., for gas stoves. Bronze Medals.—Hargreaves and Bardsley, Oldham, for beer-engines; Chorlton and Dugdale, for "Excelsior" spring mattresses; Samuel Morley, Stockton, for patent needle water-gauges. Certificates.—Wm. Greenwood and Co., Manchester, for gas cooking-stoves; William Mawlam, Stockton-on-Tees, for patent rail way-truck couplings; Thos. Fletcher, Warrington, for patent ventilated gas-stoves.

CARPETS AT THE WORCESTERSHIRE EXHIBITION.—At a meeting of the General Committee of the Worcestershire Exhibition, held recently at the Guildhall, the Mayor (Colonel Stallard) in the chair Mr. H. Willis mentioned that 40,000 feet of floor had been applied for in the industrial section, whereas the available space was only 20,000 feet. The sub-committee had succeeded in allotting space to all the applicants. They would carry out the wishes of the Kidderminster manufacturers by giving to each exhibitors floor-space for the exhibition of any special article. There would be a considerable wall-space at disposal. The sub-committee had been obliged to refuse several articles, and in some instances to curtail space, but every applicant would have a certain space allowed. Mr. H. R. Willis (of Kidderminster) said that the carpet manufacturers had had more than justice done to them. In previous exhibitions, except at Philadelphia, their goods were not shown in the way that they were intended to be shown. Carpets could not be properly seen if they were hung on girders. Liberal space had been given by the sub-committee, and the carpet manufacturers would have an opportunity of showing their goods such as they had never enjoyed before. Several other points were discussed, and it was stated that the exhibition building was progressing favourably.

ENCOURAGED by the success that has attended the Furniture Exhibition just closed, Mr. C. Nessant has already made arrangements for a similar show next year. The exhibition, in accordance with a widely-expressed wish, is to remain open for three weeks, from April 23 to May 14, 1883.

NATIONAL EXHIBITION BUILDING, DUBLIN.—The design of Mr George Ashlm, A.R.H.A., has been selected for this building. The site of the building is in the Rotondo Gardens. Iron and glass

will be the chief materials used in the structure, which is to be light and graceful in outline, and will have a close resemblance to the Crystal Palace at Earlsfort-terrace. Spacious accommodation is to be provided for setting out in the best way the national products. The edifice is to be 250 feet in length by 200 in breadth. While the great hall is principally intended for the exhibits, the whole of the extensive suite of apartments within the Rotondo, including the historic "Round Room," will be utilized for the display, and the Pillar Room will form the statuary gallery.

A COMPREHENSIVE AGRICULTURAL EXHIBITION, in celebration of the 50th anniversary of the formation of the Agricultural Society of the Grand Duchy of Hesse, will be held in Darmstadt, from the 16th to the 24th September next. A number of money prizes, medals, and diplomas will be awarded for implements and machinery.

THE NORTH-EAST EXHIBITION of Naval Architecture, Marine Engineering, Fishery, Life-saving and Coast lighting Appliances promises to be a very successful undertaking. It will commence at Tynemouth on September 6 next, and will extend over 20 days. Mr. George Renwick, Collingwood Street, Newcastle, is the hon. secretary.

AN Exhibition of German tin-plate and stamped-metal ware will be held in Berlin during the month of May, 1883. A meeting of representative manufacturers was convened on May 18, to settle preliminaries.

SEWING MACHINE NEWSPAPERS.

Foreign.

La Machine à Coudre, Nimègue, Holland.
Journal de la Machine à Coudre, Boulevard Magenta, 35, Paris.
Nähmaschinen Bazar, New Cohn, 6-7, Beriin, Germany.
Deutsche Nähmaschinen Zeitung, Wallstrasse, Dresden, Saxony.

American.

Sewing Machine Gazette, Wilmington, Ohio.
Sewing Machine Journal, 73, Bible House, N.Y.
Sewing Machine Advance, 46, Jackson-street, Chicago.
Sewing Machine News, 31, Union square, N.Y.
United States Sewing Machine Times, 22, Union-square, N.Y.

English.

The Journal of Domestic Appliances and Sewing Machine Gazette, 4, Ave, Maria-lane, E.C., London.

"DARK DEEDS O' LONDON," the new melodrama by Mr. E. Towers, says the theatrical critic of the *Referee*, seems to have pleased the Mile Enders, who have received with special favour that workroom scene of the first act wherein a large number of girls are shown busily employed at "Stitch, stitch, stitch," not in the horrible manner depicted in the "Song of the Shirt," but with swift-moving sewing machines supplied, I understand, by the famous firm of Davis and Co.

WE hear that their Royal Highnesses the Princesses Louise, Victoria, and Maud, of Wales, have enrolled themselves as members of the Humane Society established in connection with Little Folks. The July part of this Magazine, in addition to the names of their Royal Highnesses, contains the names and addresses of between four and five thousand new officers and members. The Little Folks Humane Society, which was inaugurated at the commencement of the present year, now numbers nearly twelve thousand officers and members, and a large number of children are daily joining its ranks.

THOMAS WARWICK,

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2, with Plain Saddle	3 6 "
3, with Flexible Sides for Tricycles	7 6 "
4, do. with Roll at Back	10 6 "

These Saddles for 1882, have several very important improvements, and are acknowledged to be **the most comfortable seat** for Bicycle or Tricycle, that are in the market. They afford great ease to the rider when riding over rough and bad roads, and on long journeys. The Seat is soft, and the edges being flexible, they give to the weight of the rider, and do not chafe the same as hard edges of ordinary saddles.

All kinds of Stampings, Rims, Spokes, Backbones, Hollow Forks, Hubs, Bearings, Pedals, Springs, Lubricators, Oil Cans, Saddles and Bags, Bells, Lamps, and all parts finished, and in the rough.

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BIRMINGHAM.**

PROPERT'S IMPROVED

KID REVIVER

Having stood the test of 20 years is universally pronounced the most perfect preparation for Dyeing, Softening and Preserving Kid Boots, &c.

It restores the color and appearance equal to new, has a pleasant scent, and will not rub off or soil the clothing.

The peculiar softening properties of this Reviver preserve the boot supple and looking nice to the last.

PRIZE MEDAL,

Paris, 1878.



PRIZE MEDAL,

Paris, 1878.

PROPERT'S EBONY BLACKING,

A new Self-polishing, Waterproof Liquid, of an oily nature and great brilliancy. Suitable for Ladies' and Gentlemen's Boots and Shoes of every description. Polishes new or old leather instantaneously, without any brushing, and only needs to be used once a week.

PROPERT'S FRENCH VARNISH,

For Dress Boots and Shoes, lies evenly on the leather, gives a brilliant and elastic polish, dries quickly, and is free from stickiness or any unpleasant odour.

MANUFACTORY, BATTERSEA PARK ROAD, LONDON

THE EBONITE WATERPROOF BLACKING,

FOR

BOOTS AND SHOES.

REQUIRES NO BRUSHING.



IS ENTIRELY FREE FROM ACID.

Samples and quotations supplied to the Trade on application.

MANUFACTURED BY

S. & M. HARRIS,
57, MANSELL STREET, LONDON, E.

WANTED by a House using Thomas and other Machines, a steady MECHANIC, thoroughly competent to keep the Machines in order, and accustomed to Factory work. Apply to Hope-street Factory, Belfast.

**FOR SALE,
THE ENGLISH PATENT
OF A REAL IMPROVEMENT ON
Elastic Cylinder Sewing Machines**

Please address for particulars—

HERRMANN & DREYFUS, STUTTGART.

JOURNAL OF DOMESTIC APPLIANCES
AND

Sewing Machine Gazette.

THE appeal to the House of Lords in the case of the Singer Manufacturing Company v. Hermann Loog, is likely to come on very shortly, when it is to be hoped that a definite settlement of the whole question will be arrived at. It will be remembered, that the last time their Lordships were appealed, upon a similar question, their judgement was very strongly in favor

of the view held by the plaintiff's Company, and that they practically reversed the decisions both of the Master of the Rolls and the Court of Appeal, and the recent decision in the matter of Foxes Patent Umbrella Frames, certainly leads us to think that the Company will after all succeed in establishing their right to their trade name. The litigation on the whole has been of a most costly and protracted nature, and everybody we venture to believe will be glad to accept the decision of the Lords, when it again comes before them as a full and final settlement of the question.

EXHIBITIONS are the order of the day, the latest announcement is that of the Ladies Costume Exhibition, to be held in the galleries of the Agricultural Hall, during the continuance of the Domestic Labour Saving Appliances Exhibition, which opens on the 24th of next month. This will be a grand opportunity not only for sewing machine makers, but also to manufacturers of sewing cottons, silks, needles, &c., to display their specialities. The attendance is sure to be a large one, for there is nothing ladies so much delight in as looking after the fashions, and the time of year will be very favourable for the display of novelties for the autumn, which will very soon be here, although up to the present date we certainly have had but little summer.

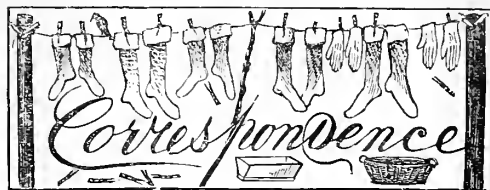
On the 26 ulto., Mr. Ebenezer Tester, the Liverpool Manager for Messrs. Bradbury and Co., Limited, previous to his leaving Liverpool for London, was presented with an album, containing photos of the employees, and having the following inscription beautifully illuminated. "Presented to Ebenezer Tester, Esq., on the occasion of his leaving Liverpool for London, by the under-mentioned employees (past and present), of this firm of Bradbury and Co., Limited, in Liverpool, and outlying districts, as a small token of their esteem and regard, and they trust both he and Mrs. Tester, may meet with every happiness and success in their new undertaking." Then followed the signatures of the employees.

OUR ILLUSTRATED SUPPLEMENT.

Represents both front and under view of the Nelson Hand Lock-stitch Sewing Machine, manufactured solely for the American Sewing Machine Company, 8, Rose-street, Newgate-street, E.C. As remarked in a late issue, this machine enjoys a very large sale, and deservedly so, for it is not only very moderate in price, but it is exceeding well made and finished, even the under parts being highly polished, whilst the ornamentation and japanning of the outside makes an elegant machine. We noted that all the parts are exact and thoroughly well made and durable and solid, causing it to make a perfect stitch. By means of the patent loose wheel the bobbin can be wound without setting the other parts of machine in motion therefore. The machine is saved much unnecessary friction, which causes it to wear longer; half the labour is saved and the cotton is wound much more easily. Of course the machine can be fixed on a stand to work by hand or treadle if required. Each machine is fitted with a large lot of appliances.

MACHINERY FOR CUTTING LEATHER.

Mr. J. Hepworth, of Littleton, near Liversidge, has obtained Provisional Protection only for machinery or apparatus for cutting the edges of sheets of leather. The machine consists of two fluted rollers mounted in a framework and capable of adjustment according to the thickness of the leather. Between the rollers is fixed a knife at an angle which may be varied so as to produce a long or short splice. It is not necessary to have the rollers as long as the width of the sheet of leather, as by mounting them so as to leave one end free, the bulk of the leather may rest upon a table, the edge only passing between the rollers.



Guide-bridge, near Manchester, June 14th, 1882

To the Editor of the Journal of Domestic Appliances and Sewing Machine Gazette.

DEAR SIR,—In this month's issue of the Sewing Machine Gazette we notice you make a statement that we have ordered 17,000 shuttles with an American firm.

Please contradict this statement in your next issue, "It is not true," we have made our own shuttles for the last twenty years. Yours truly, JNO. JONES.

[Our authority for the statement referred to in Mr. Jones letter was one of the American trade papers. We suppose, as Shakespeare had it, the wish was father to the thought. EDITOR.]

Middlesbrough, June 9, 1882.

To the Editor of the Journal of Domestic Appliances and Sewing Machine Gazette.

DEAR SIR,—Will you kindly tell me who is the maker of the Defiance hand machine, Yours truly, B. W. HUGGINS.

[Messrs. J. Harris and Son, Bull-street, Birmingham, can inform you who was the maker; the machine is not now in the market. EDITOR.]

30, Cranwell-terrace, Driffield, June 25, 1882.

To the Editor of the Journal of Domestic Appliances and Sewing Machine Gazette.

DEAR SIR,—Will you kindly inform me in your next issue of the Journal of Domestic Appliances, where I can be supplied with the Sewing Machine News, as I see you quote a paragraph from that journal in your issue this month, I should also be very glad if you could inform me whether there is any work published bearing on repairing all kinds of sewing machines. If you can give me the information I shall esteem it a very great favour, Yours truly,

ALFRED RIDSDALE.

[You will find a list of sewing machine trade papers in another column. "On the repairs of Sewing Machines" by J. W. Urquhart, C.E., can be had at the office of this journal post free, 2s. 8d. EDITOR.]

MANUFACTURE OF LINEN THREAD.

From the Scottish Leather Trader.

Some time preceding the year 1690, the Lord Chamberlain of Scotland was in the habit of summoning before his Court, the artisans suspected of selling to the lieges imperfect work or spurious wares. The shoemakers of that time were often challenged for their inferior productions, and one special item against them was that they "sew with false and rotten thread through the quilk the schoone are tint before they are half worn." The most of the thread used in those days in Scotland was imported from Holland, and not being of the best quality our shoemakers may have had some excuse for the thread tinting before the shoes were half worn out. We have changed all that now, and there is manufactured at Johnstone, and used all over the world, a thread that will last as

long as the best tanned leather will last. For nearly 200 years Johnstone, a spirited little town in Renfrewshire, has been famed for lineu thread. A daughter of the Laird of Bargarren made the first attempt to whiten and twist the flax into sewing thread, and succeeded so well that she had to extend her operations and take in the assistance of her younger sisters and neighbours. The young women round Johnstone were taught to spin fine yarns, twining mills were erected, and a profitable business established in 1718. The thread became extensively known in England and Ireland as well as Scotland, and Lady Bargarren, in order to prevent people being imposed on by other threads, put hers up in peculiar wrappers, having thereon the Bargarren coat of arms. The prices were from 6s. 8d. per lb. to £1 16s. per lb., and her ladyship was able, with working overtime now and again, to turn out 25lbs. a week. The lowest named price of Lady Bargarren thread would rank as the price of one of the higher numbers of machine thread made at the Johnstone Flax Mills now, and the turn out required to meet the present demands is over 25 tons a week. To make 25 tons of best quality of sewing thread requires about 60 tons of flax, and valuing this at £150 per ton, it will be discovered that £9000 worth of raw material is required every week to keep these mills going. The Lancefield and Lillybank Heckling and Machine Mills are some distance from the spinning and finishing mills, but they are very important branches of the manufacture, as it is at them that the raw flax is received in bales from Russia, Holland, Italy, Denmark, and Ireland. The farmer having faithfully performed his different operations of rippling, retting, beating, and scutching, the valuable bunches of fibrous material are first roughed out by hand and then passed to the heckling machines, which are wonderfully simple in their movements, and yet perform their work in a manner that seems almost to indicate intelligence and thought. The flax is now sent to the sorters, who must be experienced men and thoroughly acquainted with the work they have to do. On a table before them are two groups of steel pins, one set very fine and the other coarse and thick; the simple movement of striking a handful of flax on the pins and drawing it towards you once or twice completes the process, and the stricks of flax are arranged to the different numbers or sizes for which they are suitable. All the loose and weak fibres have given way and come off in tow and nothing is left but clean, firm, solid line suitable for the manufacture of thread. Another workshop was in the course of erection here, and every available corner of the numerous buildings around was crammed full of bales of tow or flax. Great machines were rising and falling in a quiet earnest way, or rapidly revolving, wheel within wheel, as if they were in a hurry to overtake some other machine further on. The work at the Lancefield and Lillybank Mills is all done by men and strong lads, and besides preparing line for the Johnstone Mills they have to get ready a quantity for the Grafton Mills, recently erected in a valuable property about 20 miles from the city of Boston, United States, purchased by Messrs. Finlayson, Bousfield, and Co., that they might be able to make thread for America on the spot. A powerful hydraulic press was turning out compact bales of 700 lbs., each hooped, marked, and ready for shipment. Among other gifts and encouragements to those in their employ, the Company has presented to the men a fine bowling green, near the Lancefield mills, beautifully laid out and surrounded with shrubbery and flowers, for the use of the workers. It is highly appreciated by the men.

If the agriculturalist who plants a seed where one never grew before is justly entitled to be regarded as a public benefactor, surely the individual who contributes to impart dignity and self-respect to the working-man is entitled to distinguished consideration in the community he has benefited.

We now wend our way to the Spinning and Finishing Mills. Ascending High-street and leaving the busy part of the town in the hollow behind us, we discover from the summit of the hill away down in a pretty valley, through which flows the Black Cart, a perfect city of lofty buildings, most of them six stories high, and all handsomely and substantially built of stone. About half-a-dozen tall brick chimneys raise their heads out of the midst of the

group of stately mills, and give some idea of the extent of the works and the power required to drive the machinery. The Counting Houses occupying a spacious block are near the gateway. We make a tour of the Machinery Department. Ten very large double-tubular boilers, double-flued, provide the steam to set in motion the great giants we see round us with fly wheels of 30 feet in diameter. There are four enormous engines of the combined power of 2,500 horse, sufficient to drive one of the great ocean ships, through the waves at the rate of 15 miles an hour with her dead weight of 20,000 tons. These giants do their work faithfully and well without sulking, with no muscle to grow weary, no nerve to relax, and no heart to feel faintness. The mills, the wash houses, the bleach houses, the dye houses, the pinning rooms—where a peculiar manipulation of the thread after washing, bleaching, and dyeing goes on—the swissing and wringing rooms, the drying sheds—the cooling rooms, the spooling rooms, the shoe thread warehouses, the tailors' thread warehouses, the storehouses for grey yarns, the making up and parcelling stores, the joiners' shop, the blacksmiths' shop, the mechanics' shop, and the many adjuncts necessary to carry on such an extensive factory as this, and give employment to 2,500 pair of hands, occupy at least 12 acres of ground, covering almost every available space, and present the appearance of energy and thrift on every hand. The several mills so nearly resemble each other in character and general arrangement in the processes of preparing, spinning and twisting, that we only went through one and selected for our survey one of the two Barbush Mills, for which we had to cross the river from the Parish of Kilbarchan, and enter the Abbey Parish. The hum and rattle of the powerful machinery that we find occupies every floor from cellars to attics, is continuous and deafening. Human sagacity, stimulated by human necessities, has here an agent practical and efficient, with an arm a thousand times stronger than that of Hercules, to which has been fitted a thousand times as many hands as belonged to Briareus. Mechanical contrivance has modified and directed the motion given by the inimitable power of steam, produced it in new forms, directed it to new purposes, and by means of it does far better the work performed by the fairy fingers of Lady Bargarren and her maids 170 years ago. The line, having passed through some delicate process of preparation, is now in the form of laps or streaks, and has to enter another machine, which receives the end of the lap from the rollers, and by its operation combs out and straightens the flat into a delicate fleece, which is delivered [through a funnel, whence it is drawn, compressed, elongated, and consolidated by a pair of rollers that drop it into a tin case. The silver appears like a continuous stream of glistening gold running into the tin cases. The silver, by being drawn time after time, becomes gradually finer and finer, and so thin and tender that it will no longer hold together without a twist which the machine gives at the proper moment. The silver has now passed away, and in its place we have the rove, which goes; to another department for the next step, and to other machinery. The spindles are set vertically on the spinning frame in one row, at equal distances apart, each passing through a bobbin which is loosely attached to it, and which has a play equal to its length up and down the spindle; at the top of the spindle is suspended a fly with two dependent legs, one solid and the other hollow. The roving enters this by an eye immediately above the top of the spindle, and passing down the hollow leg attaches to the bobbin. The revolving spindle carries the fly with it, spinning and winding the yarn at the same time. At this point enters a very nice calculation; the roller on which the roving is wound delivers it with the exact speed of the spindle, but as the size of the bobbin on the latter increases, if going at the same speed, would take up the yarn faster than the roller would deliver and would strain it to much. This is avoided by a contrivance that varies the speed of the bobbin to meet the circumstances. The next process in the manufacture of thread is that of twisting, in which two or three, or more, are twisted together and brought out as thread in the required thickness. The thread is now made into hanks and passed to the washing tanks and thoroughly soaked until all trace of the grease and oil imparted by the spinner has been removed. The bleaching and dyeing operations are very important stages, and re-

quire great care and attention and continual handling to make perfect. Near these departments we find the polishing room where is imparted that glossy and silky appearance so much prized by both tailor and shoemaker. We visited the spooling room where the busy workers are taking the thread out of hank on to bobbins or pirns for machine use, and then into a very large apartment where nothing but shoemakers' thread is finished and made up. The commonest form we notice was the ball, which varied in weight from a fraction of an oz. to 2 lbs. Here also is made up in proper packages the strongest of shoemakers' thread for the different kinds of sole sewing machines. The excellence of the quality of the thread made in this establishment for the shoe trade has long been established, and at the first great International Exhibition in 1851, were the threads of all nations were shown, Messrs. Finlayson, Bousfield, and Co., were awarded the medal for linen thread after a severe test of all the threads exhibited, the judges declaring they were the best for strength, taste, and neatness, and last year a gold medal at Frankfurt. Since the introduction of the sewing machine a better and finer class of thread is required, as it must be entirely free from knots, lumps, or other defects, so that it may run from end to end of the spool without stopping or causing waste or bad work. The best machinery has been put up in the mills, all the latest improvements have been adapted, and the most desirable and economical thread for shoemaking is made at Johnstone. In the warehouse for shoemakers' thread are linen threads for sewing machines of all descriptions, glove threads, bookbinders' threads, saddlers' threads, shoe threads for hand sewing, and for the various ingenious and important machines recently introduced for sewing all kinds of leather work and are made up in every form suitable for use. In the warehouse for tailor threads are every kind of linen thread used in the cloth trade, tailors' machine threads of all descriptions, carpet thread, lace thread, and gilling twines for fishing nets in all forms ready for use in bulk or in smaller packages for the domestic circle. These threads are sent to all parts of the world and the demand is steadily increasing. As already mentioned, Messrs. Finlayson, Bousfield and Co., have purchased 20 acres of land in Massachusetts near a pleasant stream, and have erected thereon mills and works, so that they may be the better able to supply their customers in the United States.

DOMESTIC MACHINERY.

The Birmingham correspondent of the *Ironmonger* writes:—The improvement which set in early in the spring has been fully maintained, more particularly as regards knife cleaners, and sharpeners, and washing apparatus. In mincers there is not so much doing in the domestic department, but the makers of sausage mincers are fairly well employed for the trade, in anticipation of autumn requirements, and there is a fair amount of business stirring for export. Local makers of knife-cleaners have had an up-hill fight of it for some years, owing to the high reputation established for London goods of this description, and the prejudice created in the Colonies and elsewhere against Birmingham-made cleaners, of which the earlier specimens were sadly wanting in finish and durability. The difficulties of manufacturers were in no wise diminished by the jealousy of merchants who refused in most cases to allow any brand or name but their own to appear on the goods they exported. Good workmanship, ingenuity, and moderate prices are sure, however, to tell in the long run, and makers like Warren & Co., who insist on affixing their name to their goods, and refuse to make the cheap rubbish which is in constant demand for some foreign and Colonial markets, are now reaping the reward of their wisdom in a steady influx of orders, which keeps them engaged up to their maximum capacity. The orders of late have been especially satisfactory for Australia, India, South America, and Russia. The home trade, though less active, exhibits an improving tendency, more especially in the large manufacturing towns of the North and West, and in Dublin. In new machines Warren & Co.'s busiest lines are the "Reliance" and "Eclipse" patterns, but the "Premier" rotary machine, in spite of its higher cost, is selling remarkably well, and vindicating the claim of the makers that it

will "compare advantageously in principle, finish and durability with the best London machines, while costing from one-fourth to one-third less money." So conspicuous indeed, is the demand for high-class machines that Warren & Co. are now preparing for the market a new knife-cleaner of superior construction to anything they have yet made, embodying some improvements which will add considerably both to the life and the efficiency of the machine. Among the local makers of mincers and sausage machines Mr. G. H. Harris continues to do a good business through merchants and factors with most of the leading home and Colonial markets, and especially London, the Midlands, the Cape, and Australia. The American competition in machines of this class, as well as in knife-cleaners and washers, is very keen in Canada, the South American markets, and Australia, but in domestic mincers and sausage machines on the rotary principle made entirely of metal, English makers more than hold their own. It must be confessed, however, that some of their most valuable improvements are derived from American patterns. Washers and wringers have been in improved demand during the past few weeks, since the advent of the fine weather, but this branch cannot be described yet as in a fairly healthy state. The demand is almost exclusively on home account, and the prices are kept down by the keen competition of the Manchester and Yorkshire houses to an unremunerative level. The Machines of T. G. Wells continue in steady request.

THE CHRISTCHURCH EXHIBITION.

From the Correspondent of the *Ironmonger*, Christchurch, New Zealand.

Of the successful opening of the exhibition you will have heard by telegram. Those of your readers who are familiar with exhibition matters will not be surprised to hear that the various courts were only about half ready on the opening day. The opening, however, was pretty much the same as "openings" generally are. There were the usual trade processions, volunteer, fire-brigade, cadet, naval musterings, loyal speeches, &c. The glowing terms in which Sir Arthur Gordon, at the opening ceremony, alluded to the progress of the colony will not appear at all extravagant to those who look back to 1840, not so very long ago, when in Wellington the little colony numbered 1,200 souls, all told. What a change in the short space of 40 years! According to the *Canterbury Times* of April 15—Railways run through the length and breadth of the colony. Even telegraphic communication has become too cumbersome, and telephones are superseding the mediatory work of the Government staff. Townships have sprung up all over the face of the country. Harbour works that a few years ago, even in the old country, would have been shrunk from, have been commenced and almost finished. Industries of all kinds have been established, and are prospering. The exports from the colony have reached £7,000,000 sterling, and the imports to over £8,000,000. The colonial revenue is closely approaching £4,000,000, and we may safely believe that the colony has fought its hard battle, and won an honourable place among the people of the earth.

Doubtless the New Zealand public have to thank the *Ironmonger* in a great measure for many of the hardware exhibits on view here, for it is astonishing to find these exhibits more numerous, in proportion to the total number than they were at either Sydney or Melbourne. Agricultural implements and machinery, dairy appliances, &c., have been contributed by E. H. Bental and Co., Thomas Bradford, Brigham and Co., Brown and May, Charles Clay, (Wakefield), Coleman and Morton, Thomas Corbett, Davey, Sleep and Co., William Foster and Co., (Limited), R. Hornsby and Sons, (represented by Mr. E. Smithurst), Burney and Co., (water tanks), J. and F. Howard, Hunt and Tawell, Kell, Meats and Co., Josiali Le But, Marshall and Co. (Limited), Messrs. Nettlefolds (lawn mower), — Perkins, Ransomes, Head and Jefferies, Richmond and Chandler, Robey and Co., Ruston, Proctor and Co., Samuelson and Co., G. Sinkwell, Smyth and Sons, H. B. Sorrenson, L. Sutcliffe, Taylor and Wilson, Whalley, Smith and Paget, Williams and Son, and A. and W. Hills, Birmingham (spades, shovels, and forks.

Other implements and machinery are exhibited by W. and T. Avery, Proctor and Williams, Crossley Bros., (gas engine), H. L. Müller, Priestman Bros., F. W. Reynolds and Son, Glover and Co., (gas meter), &c. J. B. Brown and Co., of Cannon-street, show samples of their well made galvanised netting. The Castle Iron Company exhibit, under the care of their Mr. Anthony, samples of their iron wire and their world-celebrated bolts, nuts, screws, &c. The Kirkstall Forge Company make a grand display of their well-known shafting. John Russell and Co., (Limited), Walsall, show a splendid lot of wrought-iron tubes and gasfittings. Peyton and Peyton have the best collection of metallic bedsteads I remember to have seen; they also show specimens of their patent iron tubes and fittings. The Phosphor-bronze Company contribute a small show case containing samples of their specialty. The Shropshire Iron Company make a good show of wire. The Steel Company of Scotland have sent on their magnificent exhibit from Melbourne, as also have the West Cumberland Iron and Steel Company, Taylor Brothers, (Sheffield), John Harper and Co., (Willenhall), F. Parkes and Co., (Birmingham), and the Telegraph Construction and Maintenance Company (Limited).

Suitable exhibits are shown by the Whitecross Wire and Iron Company, G. Riley, Birmingham, (bicycles), Ward and Payne, Brown and Green, J. and T. Cowan (gas-meters), Sidney Flavel and Co., and Radclyffe and Co., (ranges), B. Parkes and Son and Wells Brothers, Birmingham (fenders and fireirons—the best lot I have seen in the colonies); John Wright and Co., of gas stove notoriety, Crowden and Garrod, and Hamilton (brushware); and George Cheavin, the Silicated Carbon Filter Company, and Slack and Brownlow (filters).

Besides the above there is a good miscellaneous collection.

The contributions from the continent of Europe are of the usual kind, including, from France, fans, clocks, jewellery, paint, pottery, and electroplated wire; from Austria, a good deal of Bohemian glass, jewellery, fans, and Viennese leather goods; from Italy, beads, mosaic jewellery, cameos, oil paintings, wood carvings, plaited straw work, felt hats, and umbrellas, which compare in finish and price very favourably with English and colonial productions; and from Japan a large collection of pottery, enamelled ware, and lacquered ware, which Birmingham manufacturers might study with advantage.

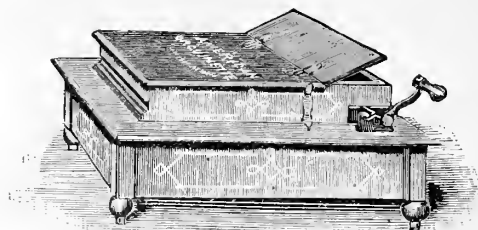
America comes out strong in agricultural machinery, and has exhibits, of spades and shovels, of the Globe Horse-shoe Nail Company's products, sewing machines, lead pencils, chairs and perambulators, hair brushes, and various other things. The New Zealand Courts have fairly taken every one by surprise. Their machinery, specimens of foundry work, of tin and copper smithing, of agricultural machines, and of household furniture, are fit to rank alongside the best productions of either Europe or America. I consider them before either Victoria or New South Wales in many things, and as most of their industries were established long before protection became the law of the colony, they certainly deserve great credit for energy and perseverance.

Up to the present the attendance has been fairly maintained. The building is said to have cost over £14,000. The materials used are, as may be supposed, galvanised iron and wood, and with the exception of the facade at the entrance to the Fine Art Gallery (which is a spacious hall, 100 feet by 50 feet), there has been little attempt at beauty. Altogether, the total space under cover is 191,106 square feet. It has been decided to give as awards certificates of gold medals as the first or highest awards, and silver and bronze medals according to the merit of the exhibit. Exhibitors wishing to have the actual gold medals can do so by paying the diesinker.

AUTOMATIC MUSICAL INSTRUMENTS.

A very reasonable addition to the stock-in-trade of the dealer in sewing machines and other domestic appliances are mechanical musical instruments. Those introduced to the trade and public by Messrs. J. Wood and Co., of 1, City-road, E.C., and of which we

give a description hereunder, are of rare good value for money, and will be found a very saleable article, either for cash or on easy terms.



THE ORGUINETTE.

The Organina, Mignonette Style, will play any tune, sacred or secular, or a whole set of quadrilles; is so simple that a child can play them without any previous knowledge of music. The tone is far superior to any other instrument, and is well adapted for small chapels, churches, or musical parties. Price £3 3s.



THE ORGANINA.

The Organina, Mignonette Style, with automatic feed attachment. The music sheets can be purchased on rolls in lengths of 40 feet and upwards, and played continuously, and when through the music is all rolled up on the other roll, and not lying strewn about the room. The automatic feed attachment not only adds to the convenience of playing, but effects a great saving of the music strips which are always protected by the rolls. The music is drawn off the feed roll, and automatically fed on to the take up roll, by means of a patented positive friction shaft, working against the feed-roll flange. The music comes on rolls with metal bearings, at no extra cost for the roll. After the music strip has been played entirely off the feed roll on to the take up roll, carry the last end of the strip from the take up roll over the top of the case, and attach to the feed roll and wind back by means of the small crank on the feed-roll bearing. When the music is wound entirely up on either roll, single strips can be played as well as though the attachment were not on. The rolls hold from 30 to 50 feet of Organina music, equivalent to from 50 to 70 feet of Organette music, and from 10 to 15 tunes are generally on a roll. Price with automatic feed attachment, £4 4s.

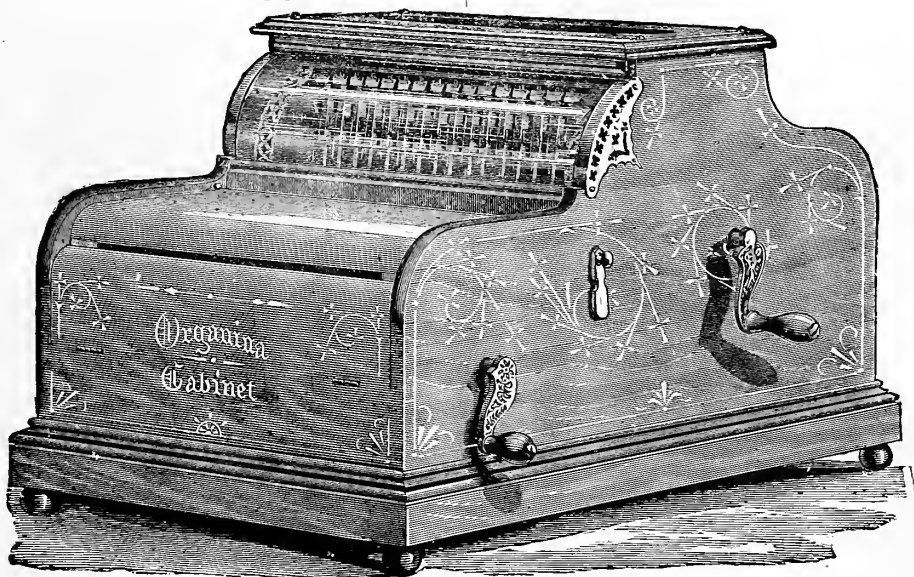
The Organina Cabinet claims to be the most complete mechanical musical instrument in the world, is on the same general principle as the Mignonette style, with additional and valuable capabilities. Carrying a large supply of music within its case, and having a most ingenious automatic feed. The Organina Cabinet has full sized cabinet organ reeds, 16 in number (same compass as Mignonette style), and is as loud and melodious as a regular cabinet organ. It will fill any ordinary sized hall, and furnish acceptable music for any occasion, which by means of the swell can be greatly varied in effect. For dances, &c., it is most admirable, and where otherwise musicians would have to be engaged, it will save its cost

in a few nights. The Organina Cabinet is 20 inches long, 13 inches wide, and 12 inches high; weight, boxed, about 25 lbs. It is made of the best selected stock, and the cases are elegantly finished and decorated; the heavy curved plate-glass panel greatly enhancing both its beauty and attractiveness, exposing the very interesting action of the automatic figures, as in the Mignonette style. The cabinet style is as loud and powerful as many cabinet organs, and produces the most beautiful music. As an article of furniture, it is elegant and recherche. Price £5 10s.

The Marvellous Organina is a wonderful triumph of mechanical skill, and the most perfect mechanical musical instrument in design, operation, and effect that has yet been produced. A mechanical musical instrument, with bellows, reeds, valves, swells and automatic finger action, using perforated paper strips to produce any desired tune; using the paper strips, not as a series of valves, however, but as a pattern or stencil to operate the automatic finger. The true principal of a mechanical instrument is embodied in this system, viz; automatic fingers which instantly open and shut, regularly constructed valves, giving perfect notes, with almost human manipulation and expression. Not paper as a valve, with

its attendant imperfections and drawbacks. The automatic levers which operate the valves in our instruments act with a similar celerity and touch to the human finger, opening and closing the valves as in a cabinet organ, far different from other instruments using perforated paper as a valve in which the note is gradually shut off, and consequently flattened as the paper passes along, requiring twice the force, twice the speed, and a greater length of paper than is necessary in our system. Wherein, the paper is not used to answer as valves, but as a pattern or stencil by which the automatic fingers are manipulated. Mechanical musical instruments using perforated paper, are not new to the trade, in either this or foreign countries, but such instruments, (hitherto using the paper as a valve) are, to say the least, extremely imperfect, and, while their sale has been certainly remarkable there has been a constant demand for something with higher capabilities, having regularly constructed, and capable of producing perfect music in expression, effect, and tone.

A smaller instrument is the Orguinette, price £2 15s., will play any tune, sacred or secular.



THE ORGANINA CABINET.

THE EASY TERM SYSTEM.

Though the troubles of the English sewing machine agent in the collection of his monies do not often appear in the newspapers, he doubtless has them nevertheless and will sympathise with the American agent referred to in the following extract from the *Evening Journal of Jersey City, U.S.A.*

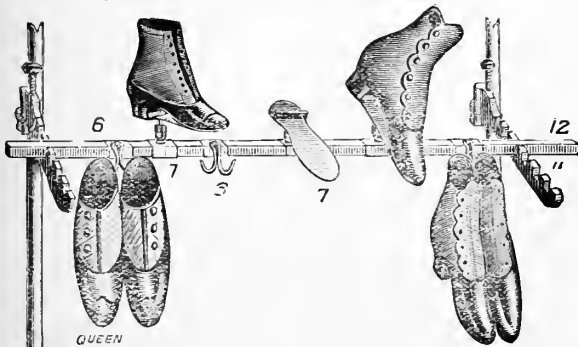
"Few people have any idea or the host of difficulties and annoyances to which any man who sells goods on the instalment plan, is subjected. A large number of suits, brought by Mr. Geo. E. Watson, the sewing machine agent, some of which have been tried, and some still pending, give some idea of the troubles at least, of a machine agent. Mr. Watson last week brought fifty-four suits, to recover amounts from 75 cents to 25 dollars, due on sewing machines sold on the instalment plan. Many of the suits were tried last week before Judge Garrick, in the Second District Court, and some of them tried yesterday. To bring a suit for so small an amount as 75 cents, seemed preposterous, but Messrs. Collins and Corbin, Mr. Watson's counsel, explained it. A single case would not make much difference, but their client has 3,000 and upwards of contracts on his books. To lose a dollar or two on each of these would aggregate a large sum. In the 75 cent case there were circumstances of peculiar aggravation. An Irish woman was a year behindhand with her payments. By dint of drumming her up all but 3 dollars was paid. She offered to pay this, provided a tucker worth 75 cents was given her. This was refused. She laid

down 2 dollars 25 cents and walked off defying the agent to collect the balance. But this is a small sort of annoyance. In many cases a family will take a machine on the instalment plan, and after making one payment will remove. Sometimes the agent discovers their new place of abode and sometimes he does not. In the former case, although months may have passed with the blank remark: "Why, we have lived here all the time," as though it was the agent's business to know whither they removed to. Another annoyance is the desire to get the best of an instalment man. The machine is purchased, and in many cases the purchaser makes her living upon it, but after one or two payments the spirit of factiousness grows, and from that time forth the agent earns his money by running after it. In not more than two cases out of five, are the agreements to pay kept. Few people can conceive of the expenditure of patience necessary in the business. It does not pay the agent to be harsh and rush into court, and he naturally exhaust every possible means to get his customers to pay up voluntarily, and it is only after every other means have failed that the claim is forced in courts. If a woman falls sick or has trouble, an application to Mr. Watson, or any other agent, will always be met in a kindly spirit. As samples of how dilatory customers are, and the amount of patience exercised with them, some of the cases tried yesterday before Judge Garrick are good: George Peifer, of Bergen Point, took a machine June 21, 1880, at 50 dollars and agreed to pay 5 dollars a month. This would make the purchase price all

due in January 1881. Peifer's last payment was on November 14, nearly 6 months ago. Judgment for 5 dollars was rendered Peifer could have paid as well as not. Ellen Meehan, of 737, Jersey Avenue, brought a machine for 35 dollars on November 23, 1880, agreeing to pay 1 dollar a week. All the money was due in July, 1881. Judgment yesterday for 12 dollars. Nelly Feeney, of 192, Grand-street, Hoboken, bought a machine on December 7, 1880, price 50 dollars, agreeing to pay 5 dollars a month. Her last payment was made December 3 last. Judgment for 5 dollars balance. These are samples. For in many cases as soon as a suit is brought the people settle up, showing that with a little effort they can do so if they will. Lawyers, tradesmens and even merchants have deliberately refused to pay instalments, and only settled with a summons. Who would not be an instalment man.

NEW PATENT SQUARE ROD FITTINGS.

The annexed cut represents new shop and window fittings especially adapted for the boot trade, patented and manufactured by McIlvenna and Co., Hilton-street, Manchester. The advantages of the square notched rise and fall brackets, and the square rods

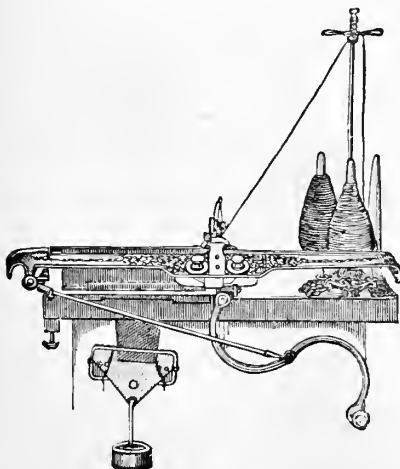


and fittings over the round ones, will be at once seen; as shown above, the rod fits into the square notched bracket, and is held firmly, doing away with the fasteners hitherto used to prevent round rods from turning. The fittings numbered 6 and 7 are merely pressed on the rod, and require no fastening whatever, thereby saving time and expense. With these fittings window dressing will no longer be a labour, and when dressed there is no fear of rods turning or fittings falling off. Like all the manufactures of this firm, they are made of the best materials, and finely finished, both brass and electro plated.



LIQUIDATIONS BY ARRANGEMENT.

- Hopwell, J., Leicester, machinist.
 Johnson, J., Kingston-on-Hull, ironmonger.
 Johnson and Reay, Stockton-on-Tees, iron manufacturers.
 Reuter, C., Silk-street, Cripplegate, engineer.
 Jones, E., Manchester, machinist.
 Renton, R., Sheffield, anvil and vice maker.
 Roberts, E. A., Newlyn, ironfounder.
 Rurch, G., Denton, Manchester, ironmonger.
 Bushell, H. K., Reading, hardwareman.
 Eddington, W. and S., Queen Victoria-street, E.C., engineers.
 Gray, J. C., Birmingham, ironmonger.
 How, D., Commercial-road, East, ironmonger.
 Murray, G., Leather-lane, Holborn, ironmonger.
 Skeates, E. J., Bristol, ironmonger.
 Barnes, C. E., Upwell, Norfolk, draper, &c.
 Hilton, G., High-street, Notting Hill-gate, Middlesex, upholsterer, &c.
 Larnier, G., Hamlet-terrace, Upper Norwood, Surrey, fancy goods dealer, &c.
 Newell, G., 498, Oxford-street, Middlesex, general draper and silk mercer.
 Pierce, H. E., and Horton, H. J., 11, Vale-street, Denbigh, draper &c.
 Blakeborough, J., Scarborough, ironmonger.
 Brousdon, E., Balham, ironmonger.
 Burridge, G., trading as G. Burridge and Co., Talbot-court, London, ironmonger.
 Coppen, F., Essex-place, London, trading as J. Boston and Co. ironmonger.
 Edwards, R. A., 272, Kentish Town-road, engineers, &c.
 Greenway and Co., Coventry, bicycle manufacturers.
 Heaps, J., Heaps, R., Feather, T., and Lund, W., Keighley, washing and wringing machine makers.
 Hore, S., Bath, agricultural engineer.
 Jackson, G., Birmingham, electroplate manufacturer.
 Jenkins, J., Cardiff, furnishing ironmonger.
 Kershaw, J., Primrose-hill, builder.
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THE DRESDEN KNITTING MACHINES

Knits Stockings, Rib or Plain shaped down the back, as by hand.

From £11 5s. 0d. Instructions Free.

Liberal Discount to Shippers and Agents.

These Machines are made in a great variety of Widths and Gauges, with New Patented Appliances for the Manufacture of all descriptions of Knitted goods, as Stockings, Half Hose, Mitts, Mittens, Scarves, &c., on the smaller Machines.

Also Under Vests, Pants, Jerseys, Cardigan Jackets, Skirts, Shawls, Wraps, Quilts, &c., &c., in a great variety of Styles and Patterns on the larger Machines.

Price Lists and Catalogue on receipt of Stamped Envelope.

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Also Importer of The "F.F." Hartford, and other Machines made by the Weed Sewing Machine Co.

THE WHITE SEWING MACHINE COMPANY.

MANUFACTORY :

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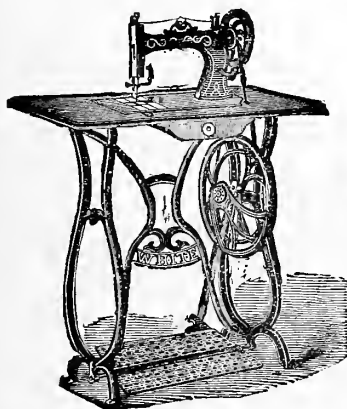
PRINCIPAL EUROPEAN OFFICE :

19, QUEEN VICTORIA ST., LONDON, E.C.

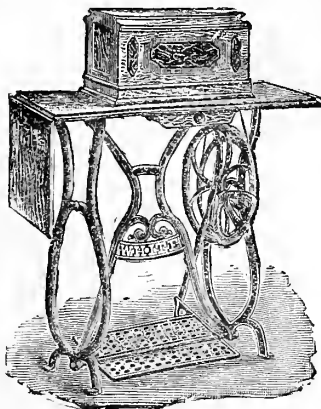
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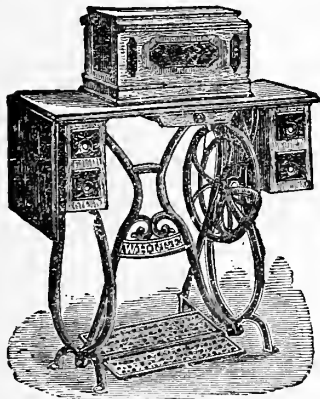
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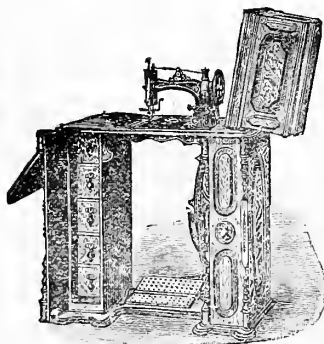
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Machines for all work. 12 various styles. IN THEIR Every machine Warranted for 5 years. Legal guarantee.

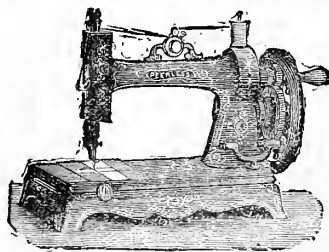
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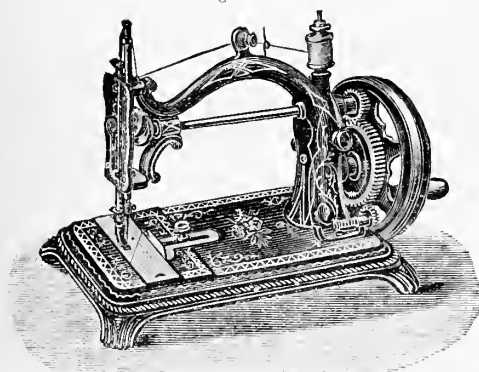
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These Machines are made from the Best Materials, and cannot be surpassed for excellency of finish and durability.

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THE "PRINCESS WALDECK."

THE HEBERLING R.S. SEWING MACHINE COMPANY,

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Manufacturers of the

NEW "PRINCESS WALDECK" Lock Stitch Sewing Machine

With Patent Automatic Winder and all the latest improvements,
FOR DOMESTIC AND MANUFACTURING PURPOSES.
To work either by hand or foot.

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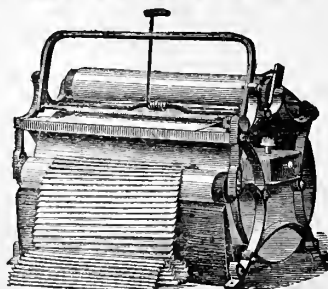
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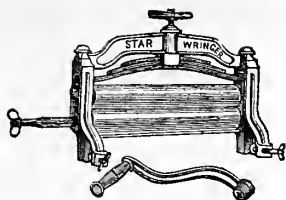
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This Kilting Machine was patented in America, June 29, 1880, but has only recently been introduced here. It is a very effective machine, and will make from 50 to 80 plaits per minute, any size plaits up to $1\frac{1}{4}$ inch and any width to 12 inches. The speciality of



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This Wringer is of an entirely new and neat design, has a novel attachment whereby the Wringer can be fixed most firmly in a few moments to Washing Machines, or any Wash Tub, either round or square.

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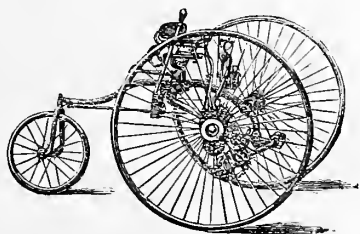
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Make, as a Special Article,

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Its speed is greater than ever before attained.

It is propelled with greater ease than any other Tricycle.

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When descending hills the rider is at perfect rest, and has the most absolute control of the machine.

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It is very light, but strong and durable.

Its Seat and Handles are adjustable to riders of any size.

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It is very moderate in price.

All who have tried it agree in saying it is simply perfect, and

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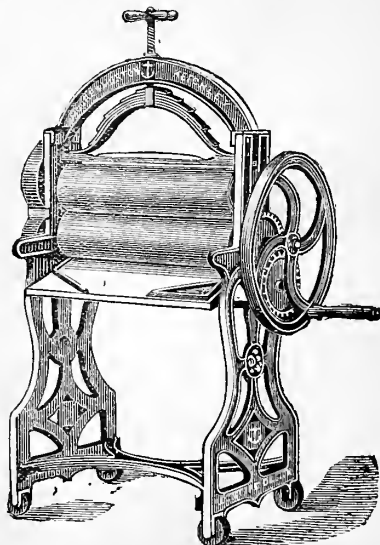
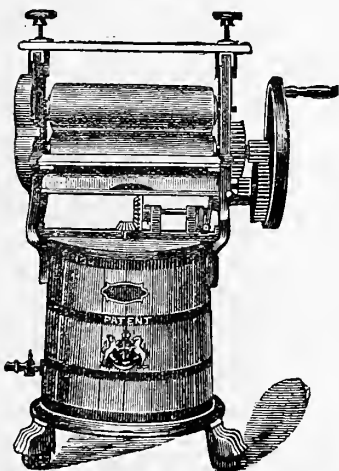
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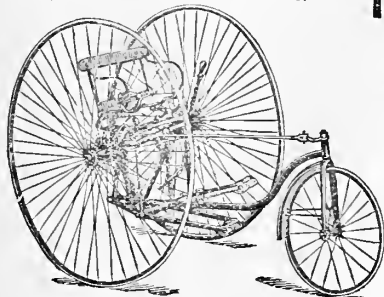
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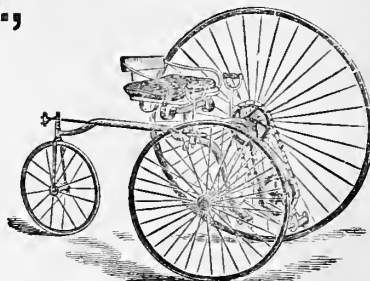
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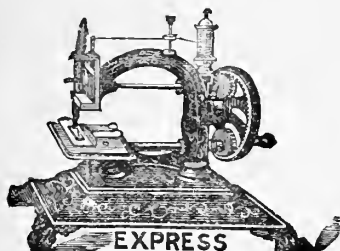
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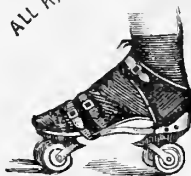
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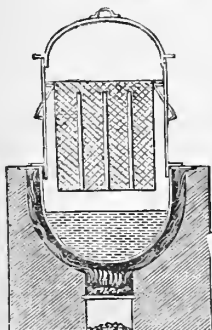
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" 2	" 18 in.	-	-	-	-	22s. 6d.,
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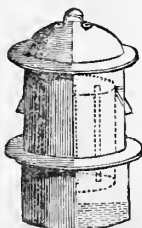
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No. 2.—Washer as fixed on top of copper.



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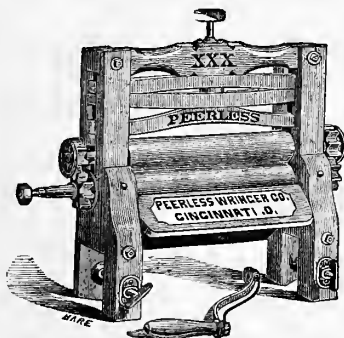
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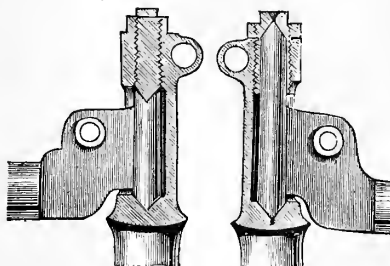
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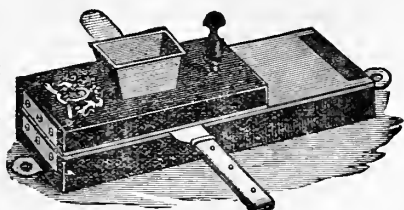
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The handiest and cheapest in the market. Retail at 6d., and nickel
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THE "REX" KNIFE CLEANER.

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An article of domestic utility, simple in construction, compact in form, effectual in operation. Has equal pressure on thick and thin side of knife. Does not wear the knife.

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Ribbed or Plain. 20 New Improvements, Patent.

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WITH ALL THE LATEST IMPROVEMENTS.

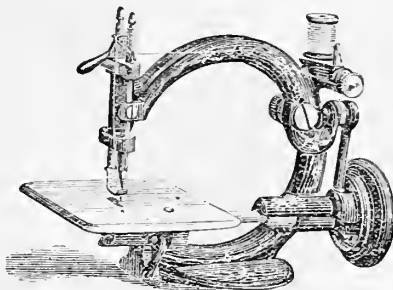
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Special Terms to Merchants and Shippers.

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Lathes from 31 inch upwards.

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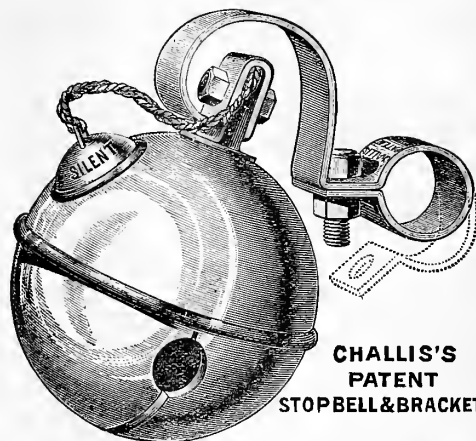
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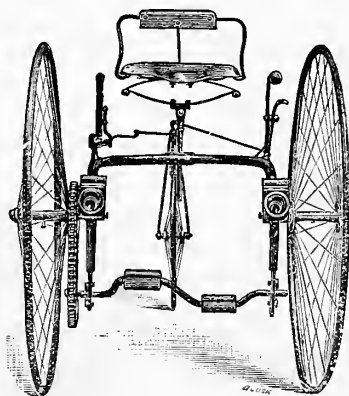
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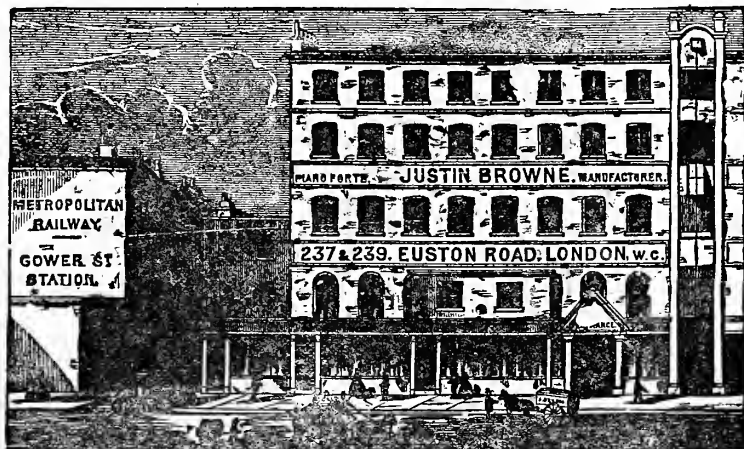
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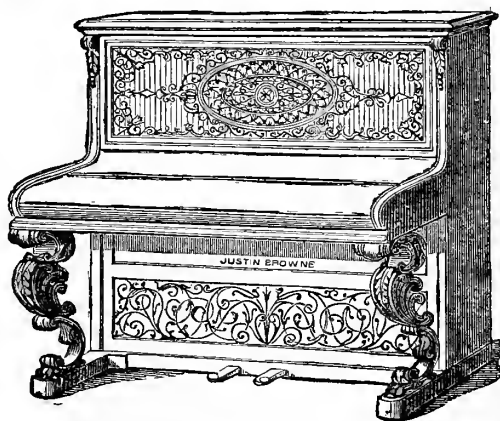
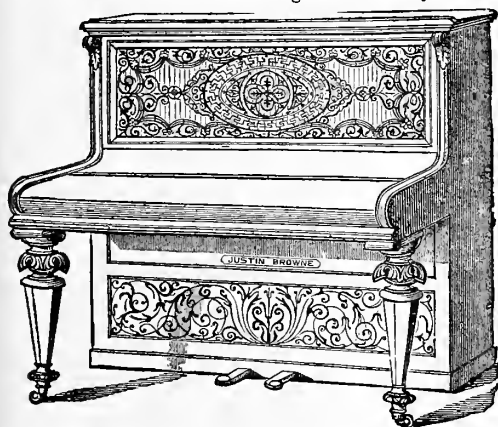
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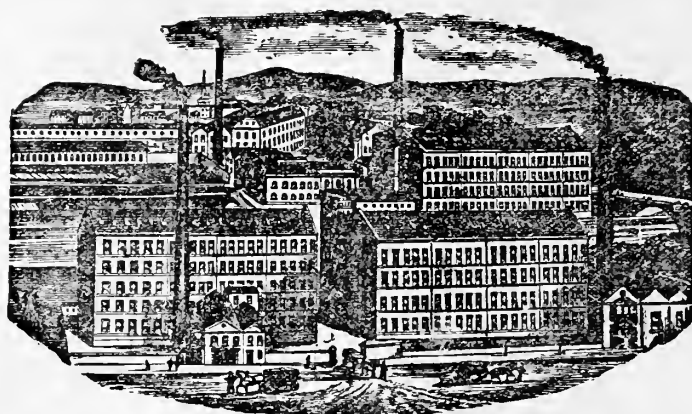
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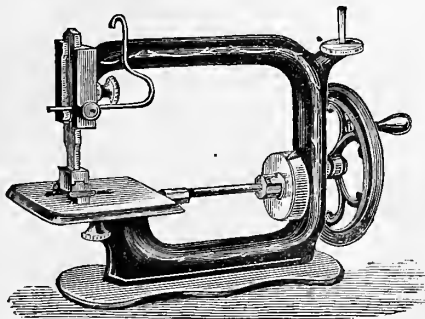
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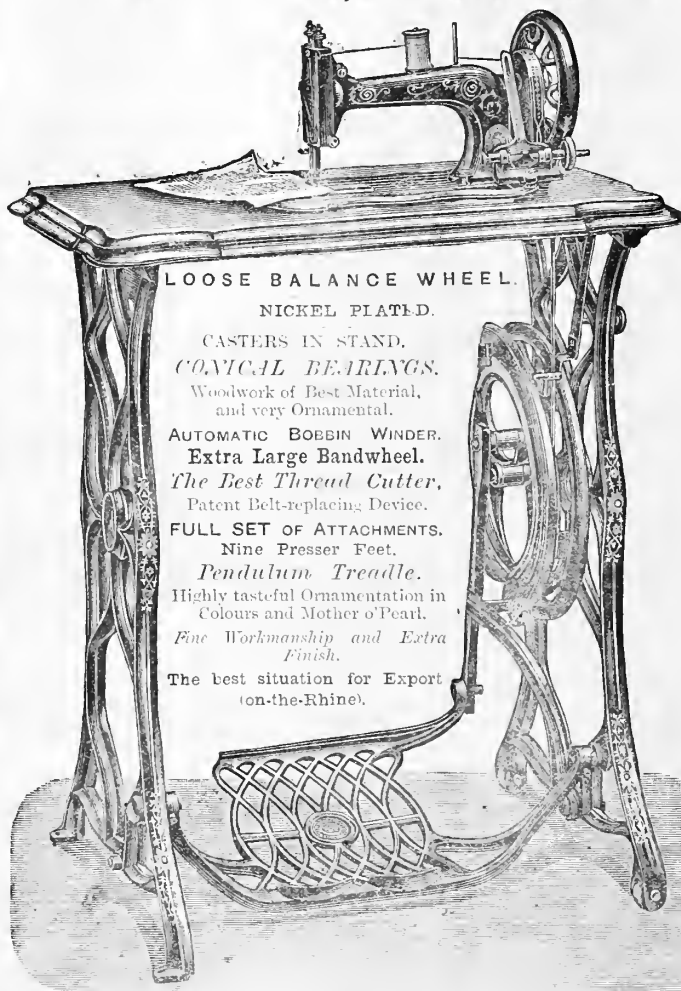
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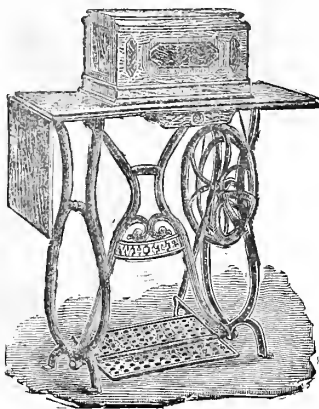
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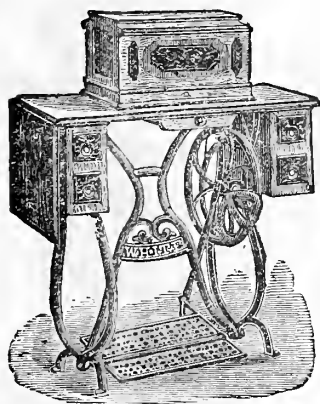
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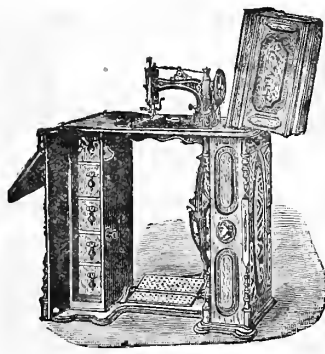
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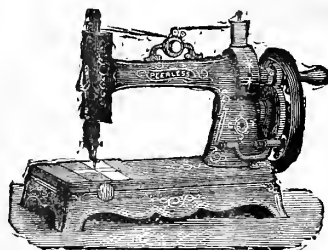
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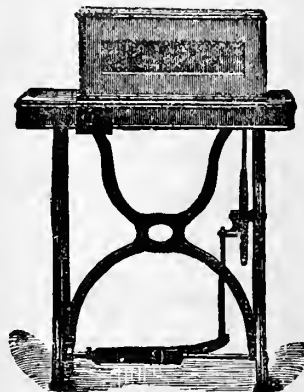
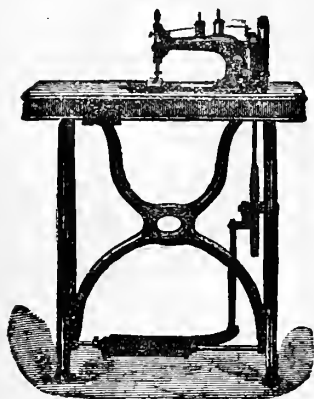
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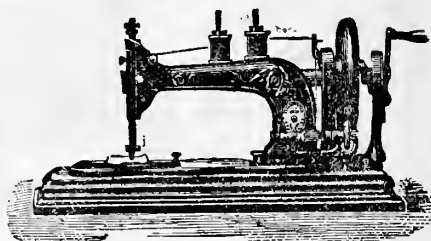
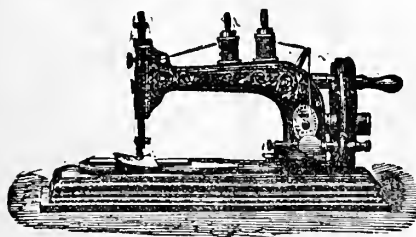
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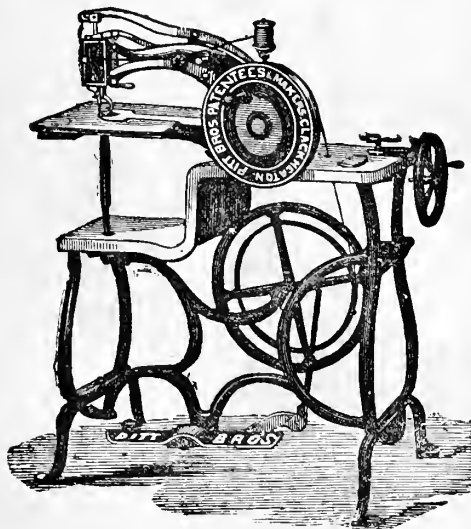
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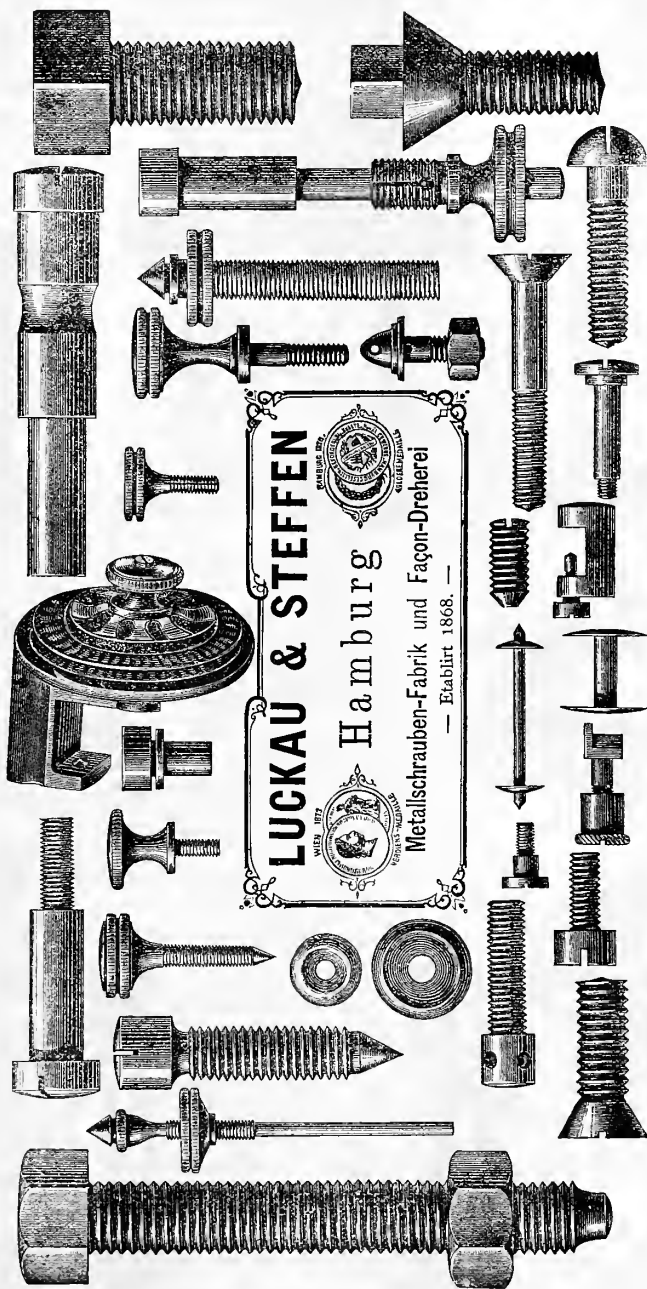


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8, Ordance Row, Barking Road,
Canning Town, E.

6, High Street, Woolwich.
7, Kew Road, Richmond, S.W.
1, Clarence Street, Kingston, S.W.
131, South Street, Greenwich, S.E.
4A, North End, Croydon, S.E.

THE SINGER MANUFACTURING COMPANY

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PROVINCIAL OFFICES:

ENGLAND.

Accrington, 9, Peel-street
Aldershot, Victoria-road
Alfreton, 68, King-street
Ashford, 17, Marsh-street
Ashton-u-Lyne, 246, Stamford-st.
Aylebury, Silver-street
Bakewell, North Church-street.
Banbury, Market Place
Barnsley, Eldon-street
Barrow-in-Furness, 11, Dalkeith-street
Bath, 5, Quiet-street
Bately, Commercial-street
Bedford, 36, Midland-road
Bicester, Sheep-street
Biggleswade, Shortmead-street
Bingley, Main-street.
Birkenhead, 164, Grange-lane
Birmingham, 93, New-street
Bishop Auckland, 29, South-rd.
Bishop Stortford, Wind Hill
Blackburn, 544, Church-street
Blyth, Woodbine-ter., Waterloo
Bolton, 32, Newport-street
Boston, 34, Market-place
Bradford, 38, Mechanics' Instit.
Bramtree, 7, Fairfield-road
Brentwood, 3, Crown-street
Brighton, 6, North-st., Quadrant
Bristol, 18 & 19, High-street
Bromley (Kent), 18, High-street
Burnley, 110, St. James-street
Burton-on-Trent, 76, Guild-street
Bury-St.-Edmunds, 76, St. John-st.
Cambridge, 17, Petty Cury
Canterbury, 6, High-street
Carlisle, Lorne-bldgs., Bank-st.
Chatham, 342, High-street
Cheddle, High-street
Chelmsford, High-street
Cheltenham, 21, Pittville-street
Chichester, 68, Foregate-street
Chichester, 1, Corporation-bldg.
Chichester, 54, East-street
Chorley, 50, Clifford-street
Cleckheaton, 5, Crown-street
Clitheroe, 89, Wellgate
Conville, Station-street.
Colchester, 32, St. Botolph-street
Colne (Lancashire), 8, Arcade
Conington, 7, Mill-street
Coventry, 112, Fleet-street (o)
Basilake Church)
Crewe, 67, Nantwich-road
Darlington, 10, Prebend-row
Dartford, 18, High-street

Deal, 124, Beach-street
Denbigh, 36, Park-street
Derby, 22, Wardwick
Dewsbury, Nelson-street (top of Daley-hill)
Doncaster, 23, Scot-lane
Douglas (Isle of Man), 5, Strand-street
Dover, 9, Priory-street
Dovercourt, Harwich-road
Dudley, 217, Wolverhampton-st.
Durham, 3, Neville-street
Eastbourne, 46, Terminus-road (two doors from post office)
Eccles, 31, Church-street
Exeter, 19, Queen-street
Folkestone, Market-place
Gloucester, 116, Westgate-street
Gratham, 11, Wharf-road
Gravesend, 20, New-road
Grimsby, 57, Freeman-street
Guernsey, 17, Smith-street
Guildford, 161, High-street
Halstead, 53, High-street
Hanley, 48, Piccadilly
Harrogate, 11, Westmoreland-st.
Hastings, 43, Robertson-street
Heddon-on-Wake, 2, Market-street
Huddersfield, Station-street
Hereford, 57, Commercial-street
Hertford, Forden House, Ware-road
Hexham, 20, Market-place
High Wycombe, 123, Oxford-rd.
Hinckley, Castle-street
Huddersfield, 8, New-street
Ilul, 61, Whitefriargate
Huntingdon, High-street
Ilkeston, 75, Bath-street
Ipswich, 19, Butter-market
Jersey, 144, New-street
Keighley, 2, Market-place
Kendall, 3, Wildman-street
Kidderminster, Bull Ring
Lancaster, 159, Brook-street (corner of Penny-street)
Leamington, 38, Windsor-street
Leeds, 14, Boar-lane
Leek, 27, Russell-street
Leicester, 44, Granby-street
Levens, 164, High-street
Liverpool, 21, Bold-street
Loughton (Staffs.), 12, Market-ter.
Loughborough, 44, Market-place
Lowestoft, 123, High-street
Luton, 32, Park-street
Lynn, 9, Norfolk-street
Maidstone, 8, King-street

Maldon, High-street
Manchester { 105, Market-street
{ 139, Cheetham-hill
{ 438, Stretford-road
Manningtree, High-street
Mansfield, 32, Nottingham-street
Market Drayton, Shropshire-st.
Market Harborough, Church-street
Melton Mowbray, Victoria House, Market-place
Middlesbrough, 39, Newport-road
Morley, 4, Bradford-buildings, Chapel-hill
Newark, 15, Kirkgate
Newcastle-on-Tyne, 16, Grainger-street, W.
Newcastle-under-Lyne, 34, Bridge-street
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Newport (I. of Wight), 91, Pyle-st.
Newton Heath, 622, Oldham-road
Northampton, 3, Market-square
Northwich, 17, Witton-street
Norwich, 55, London-street
Nottingham, 20, Wheelergate
Oldham, 70, Yorkshire-street
Openshaw, 37, Ashton-old-road
Ormskirk, 58, Aughton-street
Oswestry, Bailey-street
Oxford, 31, Kirkgate
Oxford, 3, New-road
Penrith, 8, Castlegate
Peterborough, 53, Narrow Bridge-street
Plymouth, 8, Bank of England-pl.
Pontefract, 11, New Market-hall
Portsea, 165, Queen-street
Preston, 147, Friargate-street (opposite Lune-street)
Ramsgate, 31, West Cliff-road
Ratneston, Bank-street
Reading, 61, London-street
Red Hill, High-street
Retford, 3, Grove-street
Ripley, Market-place
Lipon, 1, Blossomgate
Rochdale, 66, Yorkshire-street
Romford, Market-place
Rotherham, 109, Main-street
Rugby, Lowfield-road
Runcorn, High-street
Ryle (Isle of Wight), 78, Union-st.
Salfron Walden, Church-street
Salisbury, 56, Fisherton-street
Salford, 4, Cross-lane and 100, Regent-road
Scarborough, 30, Huntrill-row

Scetholme, Basford-road
Sheffield, 37, Fargate
Shipley, 19, Kirkgate
Shrewsbury, 4, Market-street
Sittingbourne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 25, Gaol-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, 6, Church-street
Stratford-on-Avon, 19, W.-od-st.
Stroud, 7, George-street
Swadincote, Station-street
Swindon, 52, Regent-street
Tamworth, 54, Church-street
Taunton, Bridge-street
Torquay, 58, Fleet-street
Turro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 3, Kirkgate
Walsall, 2, Bridge-street
Warrington, 41, Horsemarket-st.
Watford, Queen's-road
Wedsnesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 37, St. Thomas-street
Windsor, 64A, Peascoe-street
Winsford, Over-lane
Wirksworth, North-end
Wisbeach, 31, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-row
York, 21, Concy-street

WALES.

Abergavenny, 19, Market-street
Aberystwyth, 19, Market-street
Builth, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Llanmaes-street
Carmarvon, 5, Bridge-street
Dolgelly, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pontypool, Market-hall
Pontypridd, Market-hall
Swansea, 108, Oxford-street

SCOTLAND.

Aberdeen, 225, Union-street
Arbroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Curar-Fife, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 28, Castle-street
Galashiels, 62, High-street
Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st.
Hamilton, 32, Cadzow-street
Hawick, 3, Tower-knowe
Inverness, 14, Union-street
Kilmarnock, 38, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 56, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
Perth, 61, St. John-street
Peterhead, Rose-street
Stirling, 61, Murray-place
Tain, Lanington-street
Thurso, Princes-street

IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st.
Belfast, 3 and 4, Donegal-sq., N
Carlow, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grattan-street
Ennis, Jail-street
Enniskillen, 1, High-street
Fermoy, 1, King-street
Galway, Dominick-street
Kilrush, Moore-street
Kingstown, 614, Lower George-st.
Limrick, 31, Patrick-street
Londonderry, 1, Carlisle-road
Mullingar, Groville-street
Navan, Tringate-street
Newry, 18, Sugar-island
Parsonstown, 2, St. John's
Queenstown, Harbour-row
Sligo, 46, Knox-street
Tynan, 10, Bridge-street
Waterford, 124, Quay
Wexford, Beliskar-street

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A MODEL OF SIMPLICITY
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NEVER GETS OUT OF ORDER
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LATEST IMPROVED
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MAKES NO NOISE
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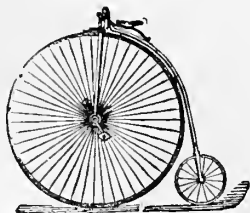
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Dressmakers who once use THE HOWE give it the preference over all others for beauty and durability of Stitch.

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Manufacturers of Boots and Clothing, who carry on a high-class trade, ONLY USE THE HOWE MACHINE.

A trial is all that is necessary to convince those in want of a Sewing Machine that THE HOWE is entitled to pre-eminence over all others.

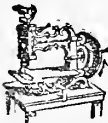
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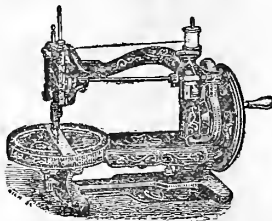


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BEWARE OF ALL COUNTERFEITS.



£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work. Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder.

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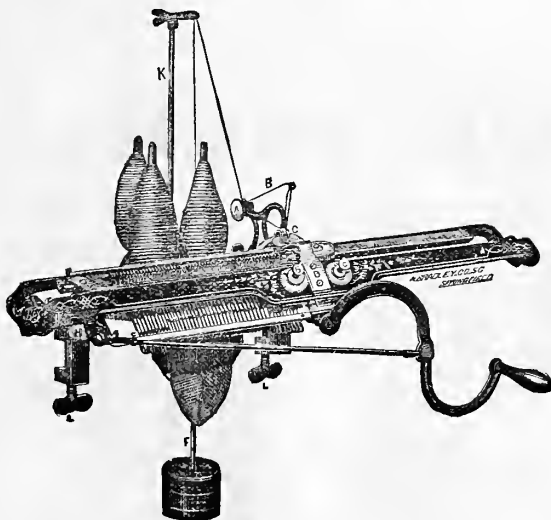
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It is worked by hand,

Is constructed of best material, and in the highest style of workmanship.

Will last a lifetime

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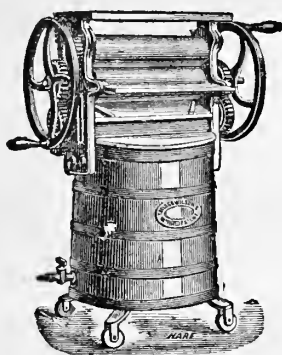
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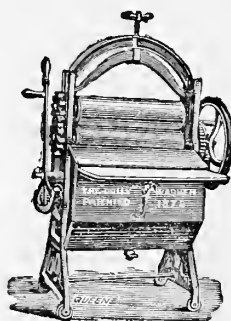
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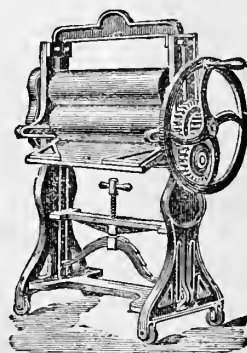
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Our Goods are all guaranteed to be made from the best materials, thoroughly seasoned, and are all fitted with our well-known patents and appliances, which cannot be supplied by any other maker.

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Cranks, Pedals, Hubbs,
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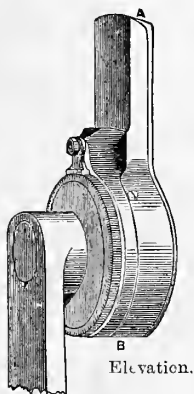
UNIVERSALLY ADJUSTABLE BALL BEARINGS,

For Front Wheels, Back Wheels, and Pedals of Bicycles, Tricycles, and other Carriages.

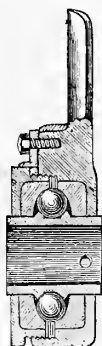
Are dust or dirt proof and longer distances can be travelled without lubrication than with any other Bearings in use. The continued and increasing demand, and the numerous commendations voluntarily accorded by both Amateur and Professional Bicycle Riders of eminence fully establish the fact of their vast superiority over all others.

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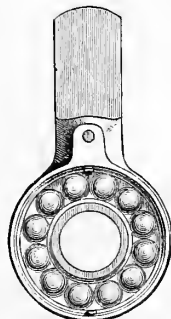
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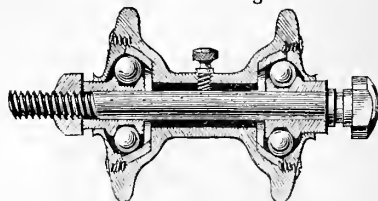
Elevation.



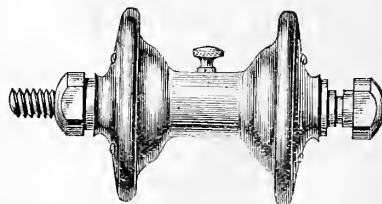
Section
through A B of Elevation.



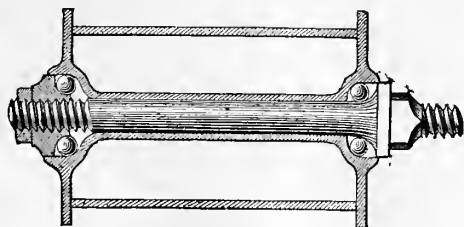
Front view with
Cap removed.



Elevation.

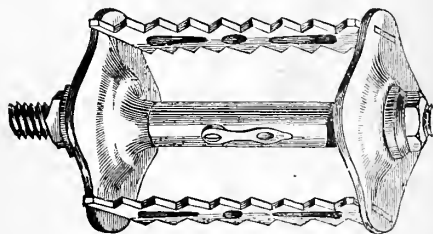


Elevation.



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PEDALS.



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ONE SHILLING.

“TRUE progress needs clear perception of things as they are, the power to see and understand what is seen. There can be no progress by people or nations without obedience to the law of healthy development of the best parts of our nature; a steady and persistent struggle after 'more light'; the earnest desire for 'truth'; an invincible determination to leave the world better than we found it; an onward and upward progress achieved by knowledge of the laws that cause success, and faithful observance thereof. The philosophy based upon 'cause and effect' suits all ages, all climates; it satisfies and stimulates. The point which yesterday was invisible is its goal to-day, and it will be its starting-point to-morrow. It is a creed that ever urges mankind on, which never rests, which has never attained, which is never perfect. Its aim is 'progress,' for ever and ever progressing. Its belief is that there is nothing but human life that man can make his; that man must come to yearn for the world that has been done by the *life* of men but that all men might do; nothing that has once occurred that may not reproduce itself again. It has become essential for the further progress of mankind that they be taught to perceive the regular action of eternal principles, be trained to perceive that 'all effects are due to causes.'”—(Page 8.)

“THE cause and effect theory puts aside the conflict between science and religion, and substitutes a creed in harmony with every new discovery of science and surrounding nature; it is upheld by, and satisfies, our reason, morality, righteousness; it tells men they must strive for healthy bodies and healthy minds; their hands must be clean, their minds pure, if they want peace and happiness. You may say that the idea is not practical, which it may be, that the world is not so ready for it; but year by year the world will grow wiser, and the onward progress of the latter thought will be marvellous, the people perceiving that it is not a myth, but a fact, that the sins of the fathers are visited upon the children, daily, hourly, inevitably; and that, if a man wishes his descendants to escape punishment, if he has a desire to escape it himself, he must walk circumspectly. It is no use for the drunkard, the improvident, or the profligate to ask for mercy, or to say he repents, on his death-bed; it is then too late to mend; he has broken the law of his health or morality, the effect will follow as certain as the night follows the day; 'as we sow, so shall we reap.' Accept as a truth, that no man or woman can lead an immoral or dishonest life without punishment ensuing. They may be sorry, may repent; the anguish and remorse is part of their punishment; the consequences of their wrong-doing cannot be escaped; some one must be—*is* punished.”—(Pages 9 and 10.)

“I AM as anxious for the moral and social amelioration of the condition of mankind as anyone, but think the object can only be attained by removing the causes that impede and check the development of man's intellectual and moral nature; and I rely wholly and solely on man's action for himself who, as evolution teaches me, to ask God to do for them. I do not say men to be content, but to have an ambition of the highest and noblest, hiddenness that surrounds them. I do not ask men to excuse themselves under the plea of 'being born in sin,' the innate depravity of human nature, man's incapacity to raise himself, the necessity for a 'vicarious sacrifice,' but I unhesitatingly assert that if man be depraved, it is his own fault; that he has the power to rise superior to the temptations that surround him; that he is punished for evil-doing of commission or omission by the laws of his nature.”

“The old belief lowers man and crushes his aspirations, by putting his advancement upwards outside of himself; makes him a mere puppet, a sport for the inscrutable dispensations of Providence. Blind faith is honored above the sublimest of acts. The new system entirely reverses this; it raises man's self-respect, gives a dignity to his nature, stimulates his desire to observe and think. To progress, by telling him plainly that all advancement rests with himself alone; encourages him, by explaining that by the inevitable action of God's laws, every effort onwards makes him stronger for still climbing upwards; that obedience to law will slowly but surely remove the ills that have been inherited through the disobedience of his predecessors and his own.”—(Pages 10, 11, and 12.)

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MR. PLATT, 77, St. Martin's Lane, London, W.C., will send a copy of either *BUSINESS, MORALITY, MONEY, LIFE, ECONOMY, or PROGRESS*, post free for 1s; or the six books post free for 6s.

“THE appeal to the masses to touch property requires the greatest care; and statesmen should remember this fact, that, up to the present moment a want of respect for, or equality in property, has meant the same thing as savagery, and that respect for, and inequality in property, has always co-existed with what we mean by civilization; it has always, that is, co-existed with every kind of progress. Do not be misled by those who denounce but bad advisers who tell you men are to be considered before wealth; therefore free trade, machinery, letting 'a limited class have possession of the land,' &c., is a crime against humanity. It is not true. Free trade, machinery, rent left to value land fetches in the open market, support more and not fewer inhabitants; all laws which remove all its restrictions or monopoly, the sacredness of life, the security of property, the inevitability of contracts, the more a nation recognizes its duty in fulfilling all its obligations as a sacred duty—these are all conducive to peace and prosperity, all raise man's highest faculties, urge him upward. It is not the spendthrift, but the thrifty, that helps forward progress; in acquiring, to possess, to increase the national capital, is essential for progress in the arts, for progress in the sciences, for progress in the conquest by mind of the matter. Every heritage of thought, or beauty, or legal wisdom, that has come down to us from the past, has come down to us from societies built up by inequality, and divided into rich and poor, privileged and unprivileged. There is not one of the great civilizations of the past but tells with a solemn plainness this hard truth, Babylon and Egypt, Athens and Rome, and modern Europe through all its changes, are all unanimous and unequivocal in their witness to the truth of this law of nature, 'inequality,' and that the steady progress of civilization has depended upon, as it can only subsist by, the sacredness of life and property by every member of the community.”—(Pages 57, 58.)

“FROM the earliest period man's courage has been daunted by the perception that, though it might conquer an evil thing, that thing was pretty sure to return. Darkness might vanish before the dawn, but it returned; the storm cloud cleared away, but it came again; the sickly season might pass, but it came back; the cancer was eradicated only to reappear; the tyrant might be slain, tyranny remained; the struggle seemed hopeless, the doctrine of despair led up to that of 'fate.' The greatest obstacle to 'progress' in every clime and every age, has been 'superstition,' kept alive by that deadly poison, 'ignorance'—the support of 'dogma and priestcraft,' the cause of 'intolerance,' that plague of the past. Yet mankind marched on, nothing doubting, step after step, without knowing whether the spirit of humanity keeping alive hope of a better future within them, until, after a long and terrible battle 'truth' has conquered; liberty, peace, justice, reason, conscience, science, have taken root; and the shoots of the mas tree planted by the hands of dogma and priestcraft in every part of the earth will soon disappear, when mankind learns 'that nature's laws are eternal, and that her small still voice, speaking from the inmost heart of us, shall not, under terrible penalties, be disregarded.' Believe, if you like, that divine love came down to take on itself our sins; in 'life' we find there is no Saviour to do the like for us; we shall individually suffer for our mistakes and weaknesses; and the nation must suffer that, by its politics, evils, rather than fosters, individual efforts onwards and upwards.”—(Pages 182, 183.)

BUSINESS takes up the position that if all men cannot succeed in making a fortune, no one need fail if they understand their business thoroughly, work ind-fatigably at it, and live thriftily.

MORALITY was written to show that "honesty is the only policy," that there can be no permanent or lasting success for individuals or nations unless they are wise enough to see that "morality," or "doing to others as they would be done by," must be the guiding spirit of their actions.

MONEY was intended to get people to think more of the circulating medium and its action by means of gold, paper money, the value of banks and cheques.

LIFE describes the impression made upon my mind in a busy career amongst all classes of men; and as it has always seemed to me that we suffered enough in this world for our manifold sins and wickedness, my object was to get my readers to try and make the most of this world by learning and reverently obeying the Creator's laws, and dismissing the next world from their minds, feeling assured they might safely leave their future in the hands of their Father in heaven.

PROGRESS has been written to indicate in a brief space the giant strides that have been made in every department of industry, commerce, and science since the last century; but its principal intent is to make men more thoughtful, more observant of what is going on around them.

“PROGRESS is written to show that human history is a record of progress. Progress is God's law, which we may listen or retard, but cannot stop altogether. Every succeeding age starts with a record of accumulated knowledge in the arts of production; of increased wisdom, that enables each generation to get rid of some of the errors of its predecessors. We have, therefore, a continual advancement from a lower to a higher status of intelligence and well-being. We do not mark the progress that is going on; the days and years seem to repeat themselves unchangeably. In reviewing the past it seems at first as if, though there were long periods of stagnation, evils quietly endured for generations, to be suddenly and violently overthrown in sudden amelioration. But, like the 'little worms beneath the surface,' nature is steadily pursuing her work in her own quiet but inscrutable way. The stagnation is only apparent; there is being acquired a silent accumulation of forces, whose gathered power will in heaven's own time, and by the inevitable operation of nature's laws, remove the barriers to man's progress. For ages it seemed weary work; man seemed helpless against the 'monarch's and the priest's control; the brain of man was refused the power of thought, except in the 'orthodox' manner. No sooner was 'thought free,' no sooner were the barriers which prevented progress overthrown, than we see in the nineteenth century a progress rapid beyond all precedent; the stream of human development received into its sluggish currents a mighty impulse for the amelioration of the condition of mankind.”—(Page 194.)

“THERE is a religion that can be taught in all schools, adapted for all men—the religion of progress, the religion of nature, the religion of duty, of right, of good, of love—which explains and prepares men's mind for seeing where their duty lies, of distinguishing good from evil, and why it is good or evil. It is useless merely to read up errors, leaving men's souls as dead, as barren and useless as a sea shingle; take away the falsehoods of life, but replace them with truths. It must be right to improve things in the world, to make it better for man and beast, to do all we can to increase happiness, and refrain from doing anything that will diminish it.”—(Page 192.)

“THE time has come when mankind must face the question boldly and openly, how the 'Creator governs the world we live in' does 'progress' depend on the observance of God's law. Is man's religion to be known by his acts, or by his profession of belief? Are we to believe in 'cause and effect,' in 'law' invariable, inevitable, unerring law; or in destiny, fate, predestination. Divine interposition? I put this question to you plainly, because it seems to me that upon it rests our future.”—(Page 200.)

N. B.—Every Tradesman should read the chapter on "Distribution," more especially pages 172 to 178, which explains fully the necessities for the "Parcel Post," and the question of carriage of parcels by Railway Companies.

MR. PLATT will send a copy of either *BUSINESS, MORALITY, MONEY, LIFE, ECONOMY, or PROGRESS*, post free for 1s or the six books post free for 6s.

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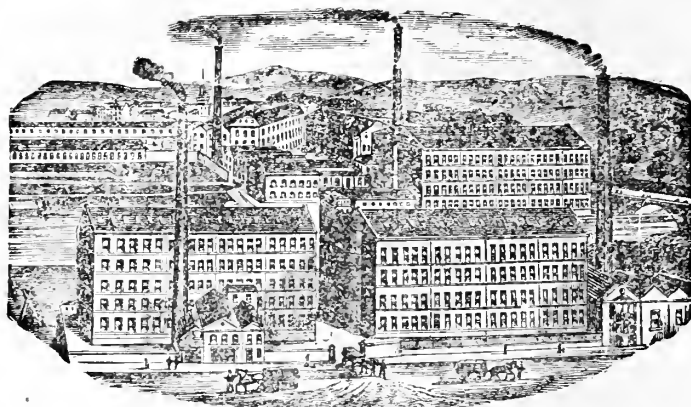
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The Threads manufactured by FINLAYSON, BOUSFIELD & CO. are in practical and exclusive use during the Exhibition in Mr. Tilton's Boot Factory, and by the Goodyear, the Blake, the Keats, the National Wax Thread Machines, and by the New International Dry Thread Machine. This, as a practical endorsement of this Thread, is certainly very suggestive, and it is doubtful whether stronger testimony, from those best qualified to judge, could possibly be given, 'as to the quality of the article under notice.'—*Boston Advertiser*, September 10, 1881.



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SECOND ANNUAL EXHIBITION OF DOMESTIC LABOUR-**SAVING** APPLIANCES

AND

All Articles intended for the promotion of Domestic Thrift,

AT THE

AGRICULTURAL HALL, LONDON,

AUGUST 24, 25, 26, 28, 29, 30, 31; SEPTEMBER 1, 2, 4, 5, 6, 7, 1882.

This SECOND ANNUAL EXHIBITION OF DOMESTIC LABOUR-**SAVING** APPLIANCES will be conducted on the same lines as that which was held at the Agricultural Hall for three weeks in March, 1881. It was felt then, although the Exhibition was in every sense a most successful one, yet that the Autumn would, on the whole, be a better time for its successor. The Hall has, accordingly, been secured for the end of August and the commencement of September, the Exhibition remaining open for 13 days.

Large contracts have been entered into by the management for the purpose of its being very extensively advertised, both in London and the provinces, and it is believed, in consequence of the great improvements that have been made and the great discoveries that have taken place in the departments of Sanitary and Household Economy since the last Exhibition closed, that the one now proposed to be held will be filled with exhibits of more than usual interest.

Applications for space will be dealt with in the order in which they are received.

CHARLES MESSENT, General Manager.

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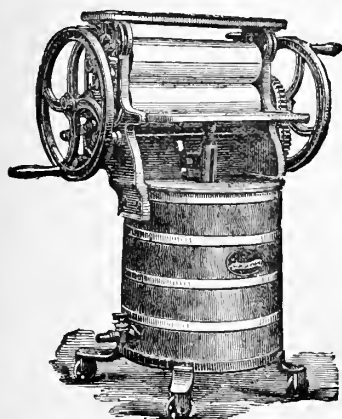
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NEW HIGH-CLASS WASHING MACHINE.



The "PARAGON" Washer, Wringer and Mangle (KENWORTHY'S Patent) is a compact powerful, and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize Silver Medal, General Competition, and also an extra First Prize, Silver Medal for Improvements; Worsley Agricultural Show, the Society's Medal; Altrincham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society Medal; also gained Prizes and Honours at the Northumberland, Halifax, Tordurden, and Preston Agricultural Shows.

Showing Plunger, which works up and down in tub about 60 times per minute, atmospherically forcing the hot water and soap through the clothes, thus not only loosening the dirt but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate articles.

Mr. JORDAN EVANS, 92, Cawder Street, Prince's Road, Liverpool, says:—"I beg to inform you that the 'PARAGON' Washing, Wringing, and Mangle Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in less than two hours."

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The following List has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette," by G. F. REDFERN, Patent Agent, 4, South-street, Finsbury, London, and at Paris and Brussels.

APPLICATIONS FOR LETTERS PATENT:—

- No. 2774. W. Dixon, of Brighton, for improvements in velocipedes. Dated June 13, 1882.
- „ 2831. W. Morgan-Brown—a communication from E. C. Tonssaint, of Zurich, Switzerland, for improvements in music stools. Dated June 15, 1882.
- „ 2860. R. Neal, of New Benwell, Northumberland, Joiner, for improvements in tricycles and other wheeled carriages propelled by manual power. Dated June 17, 1882.
- „ 2880. W. Fairweather, of Manchester, Machinist, for improvements in or applicable to sewing machines. Dated June 19, 1882.
- „ 2882. W. S. Laycock, Sheffield, for improvements in self-acting window blind apparatus. Dated June 19, 1882.
- „ 2903. C. Edmeston, and E. Edmeston, both of Manchester, Engineers, for improvements in and applicable to cloth plaiting and measuring machines. Dated June 20, 1882.
- „ 2908. W. Combe, of Glasgow, for improvements in drying apparatus, adapted for public washing houses and other situations. Dated June 20, 1882.
- „ 2916. G. W. Moon, of Regent-street, Manufacturer, for improvements in childrens' cots. Dated June 20, 1882.
- „ 2920. C. L. Hancock, of 29, Oxford-street, Dudley, Domestic Appliances and Potato Washing Machine Manufacturer, for improved construction or arrangement of apparatus for cleaning and for removing the skins from potatoes. Dated June 20, 1882.
- „ 2926. A. K. Robinson, of Leeds, for improvements in cooking ranges and stoves. Dated June 20 1882.
- „ 2936. G. F. Redfern—a communication from H. Buczowski, of Vienna, for a new or improved process of and apparatus for manufacturing soap sheets. Dated June 20, 1882. (Complete Specification.)
- „ 2938. J. Mallinson, of Selby, Yorkshire, Pianoforte Maker, for improvements in the actions of pianofortes. Dated June 20, 1882.
- „ 2947. J. S. Edge, junior, Mechanical Engineer, and F. W. Ticehurst, Gunpowder Agent, both of Birmingham, for improvements in bicycles, tricycles, and other velocipedes, and in lamps for and in attaching lamps to bicycles, tricycles, and other velocipedes. Dated June 21, 1882.
- „ 2952. H. F. Hambruch, of Hamburg, for improvements in machines for cleaning knives. Dated June 21, 1882.
- „ 2961. J. Harsant, of Wandsworth, London, for improvements in flushing water-closets, traps, and urinals, and in apparatus therefor. Dated June 22, 1882.
- „ 2964. W. Morgan-Brown—a communication from F. White, of Westboro, Massachusetts, United States, for improvements in velocipedes or tricycles. Dated June 22, 1882.
- No. 2966. W. Brookes, of Manchester, for improvements in lawn tennis apparatus. Dated June 22, 1882.
- „ 2979. H. J. Haddlau—a communication from O. C. White, of Massachusetts, United States, for improvements in ball and socket joints. Dated June 23, 1882.
- „ 2983. A. Reaney, of Sheffield, for improvements in the manufacture of trowels. Dated June 23, 1882.
- „ 2994. R. and S. Jackson, both of Broadbottom, Cheshire, for an improved ash receiver. Dated June 24, 1882.
- „ 3000. G. Dawson, and C. Butcher, both of Thorncliffe, Yorkshire, for improvements in kitchen ranges. Dated June 24, 1882.
- „ 3009. W. S. Morton, of Edinburgh, for improvements in or connected with domestic or similar fire-places. Dated June 26, 1882.
- „ 3011. S. Grafton, Engineer, of 54, William Edward-street, Birmingham, for improvements in lamps, part of which is applicable to candlesticks. Dated June 26, 1882.
- „ 3014. T. F. Marriott, of Leeds, for improvements in tricycles. Dated June 26, 1882.
- „ 3023. G. Moss, of 46, Barbican, London, Bicycle Manufacturer, for improvements in velocipedes. Dated June 27, 1882.
- „ 3040. R. Wallwork, of Union Bridge Iron Works, Manchester, for improvements in machines for cleaning knives forks and other articles. Dated June 28, 1882.
- „ 3043. T. P. Wymond, of Gresham-buildings, Basinghall-street, London, Solicitor, for a new or improved instrument or tool for drawing corks from bottles and other vessels. Dated June 28, 1882.
- „ 3087. J. Dodd, of Oldham, Machinist, and W. Adams, of Kidderminster, Carpet Manufacturer, for improvements in looms for weaving chenille or fur pile fabrics. Dated June 30, 1882.
- „ 3100. W. R. Lake—a communication from A. Neustadt, of San Francisco, California, United States, for improvements in machinery for sewing carpets or the like. Dated June 30, 1882.
- „ 3116. Eugénie Victoria Emery, of Canonbury, London, for an improvement in venetian blinds. Dated July 1, 1882.
- „ 3119. J. M. Draper, Commission Agent, and J. B. Draper, Brass Finisher, both of Blackburn, Lancashire, for improvements in the mechanical parts of musical instruments, such as organs, organettes, organia cabinets, or other like instruments, for producing musical sounds by mechanical means. Dated July 1, 1882.
- „ 3121. W. J. Lloyd, of Harborne, Staffordshire, Manufacturer, for improvements in tricycles and other velocipedes. Dated July 1, 1882.
- „ 3151. F. Wirth—a communication from Junker and Ruh, Manufacturers of Sewing Machines, of Karlsruhe, Germany, for improvements in sewing machines. Dated July 4, 1882.
- „ 3166. A. Gass, of Belfast, Mechanic, for improvements in hem-stitching machines. Dated July 5, 1882.
- „ 3183. A. M. Clark—a communication from G. A. Risler, of Cernay, Haute Alsace, for improved apparatus for preparing cotton for spinning. Dated July 5, 1882.
- „ 3201. J. Walker, of Coventry, for certain improvements in or relating to velocipedes. Dated July 6, 1882.
- „ 3223. J. H. Topham, of 52, Church-street, Manchester, for the filtration of water for domestic and other supply by means of a new mechanical arrangement. Dated July 7, 1882.
- „ 3230. W. T. Shaw, of Adelaide-road, Surbiton, Surrey, and W. Sydenham, of Wood-street Chambers, Old-

- street, London, for improvements in tricycles, bicycles, and other velocipedes. Dated July 7, 1882.
- No. 3246. W. H. Baynes, of 1, St. Petersburg-place, Bayswater, London, for improvements in brushes for use in cleaning and polishing boots and shoes, which improvements are also applicable to brushes for other uses. Dated July 8, 1882.
- „ 3251. A. M. Clark—a communication from J. E. J. L. Mounié, of Paris, for improvements in ovens for baking bread and other products. Dated July 8, 1882.
- „ 3254. G. Kent, of 199, High Holborn, London, for improvements in knife cleaning and polishing machines. Dated July 8, 1882.

Letters Patent have been issued for the following:—

- No. 5628. L. A. Groth, a communication from G. T. Grosser, of Markersdorf, near Burgstadt, Germany, for improvements in knitting machines. Dated December 23, 1881.
- „ 5682. J. White, Manager, and J. Ashbury, Machinist, both of Coventry, for improvements in velocipedes. Dated December 27, 1881.
- „ 76. J. H. Johnson—a communication from M. Perret, of Paris, for improvements in domestic fire-places or stoves. Dated January 6, 1882.
- „ 92. F. C. Glaser—a communication from Gebrüder Knake, Pianoforte Manufacturer, of Münster, Westphalia, Germany, for improvements in pianofortes. Dated January 7, 1882.
- „ 99. M. D. Rucker, junior, of Letchfords-buildings, Bethnal-green, London, for improvements in velocipedes, parts of which are applicable to other purposes. Dated January 7, 1882.
- „ 116. E. M. Knight, of Manchester, Machinery Agent, for improvements in knife cleaning machines, part of which improvements are applicable to wringing and mangling machines. Dated January 9, 1882.
- „ 158. W. R. Lake—a communication from Messrs. E. Thimonnier, Fils, and Veruay, of Paris, for improvements in sewing machines and in needles therefor. Dated January 11, 1882.
- „ 181. G. Moss, of 46, Barbican, London, for improvements in velocipedes. Dated January 13, 1882.
- „ 201. J. S. De B. Yelloly, Lieutenant Royal Navy, and A. H. S. Elwes, Sub-lieutenant Royal Navy, for improvements in skates. Dated January 14, 1882.
- „ 207. J. H. Miles, of Birmingham, Perambulator and Bath Chair Manufacturer, for improvements in perambulators and bath chairs. Dated January 14, 1882.
- „ 415. W. Hillman, of Coventry, Velocipede Manufacturer, for improvements in velocipedes, parts of which improvements are applicable also to other purposes. Dated January 27, 1882.
- „ 466. J. F. McLaren, of Glasgow, Solicitor, for improvements in sewing machines. Dated January 31, 1882.
517. W. R. Lake—a communication from F. G. Burley, of Boston, Massachusetts, United States, for an improved saddle for bicycles or similar vehicles. Dated February 2, 1882.
- „ 518. H. G. Meeze, of Redhill, Surrey, and A. G. Salamon, of Clapham-park, and R. E. Phillips, of Great George Street, Westminster, both in London, for improvements in velocipedes and in fittings for the same. Dated February 2, 1882.
552. W. H. D. Jones, of 30, Torrens-road, Brixton-rise, London, for improvements in knife cleaning machines. Dated February 4, 1882.
- No. 714. W. R. Lake—a communication from G. Beck, of Waco, Texas, United States, Mechanic, for an improved lampwick. Dated February 14, 1882.
- „ 900. G. S. Grimston, of Brockley-road, Brockley, Kent, for improvements in gas burner apparatus. Dated February 24, 1882.
- „ 1100. J. Ainsworth, of Brinscall, Lancashire, for improvements in pianofortes and similar keyed instruments. Dated March 7, 1882.
- „ 1433. J. Lewthwaite, of 5, Carlton-place, Halifax, for improvements in rollers for washing, printing, spinning, carding and other like machines, and in the manufacture of belts for machines and other purposes, such as covers or cloths for tables, chairs, seats, in imitation of leather. Dated March 24, 1882.
- „ 1520. T. and J. Brooke, both of Sheffield, Manufacturers, for improvements in attaching non-conductors to the handles of vessels for containing hot liquids, such as tea pots and similar vessels. Dated March 29, 1882.
- „ 1633. H. Clegg, of Accrington, Foreman Mechanic, for improvements in driving gear applicable to wringing and mangling machines, and for pulley blocks, hoists, and other like uses. Dated April 4, 1882.

PATENTS WHICH HAVE BECOME VOID:—

- No. 2218. H. Harris, of Hackney, London, for improvements in filters. Dated June 4, 1879.
- „ 2223. J. H. Johnson—a communication from T. W. Morrison and E. A. Wilkinson, both of Newark, New Jersey, United States, for improvements in sewing machines. Dated June 4, 1879.
- „ 2236. J. E. Perrachon, of Lyon, France, Mechanical Engineer, for improvements in sewing machines. Dated June 5, 1879.
- „ 2254. W. Langshaw, of Nottingham, for improvements in tricycles and other velocipedes. Dated June 7, 1879.
- „ 2306. A. G. Sutherland, of Leith, North Britain, for improvements in water closets, and in apparatus connected therewith. Dated June 11, 1879.
- „ 2338. A. M. Clark—a communication from J. E. Marrel, of Paris, for improvements in gas burners for lighting and heating. Dated June 12, 1879.
- „ 2395. W. Sherar, of Aston, near Birmingham, for improvements in apparatus for indicating the distance travelled by bicycles and wheeled carriages on roads, tramways and railways. Dated June 17, 1879.
- „ 2462. T. R. H. Fiske, of Leeds, for improvements in the construction of washing machines, which improvements are also applicable to churns. Dated June 20, 1879.
- „ 2480. F. Ryland, of West Bromwich, Manufacturer, for improvements in sad irons. Dated June 21, 1879.
- „ 2508. R. Holmes, of King-street, Norwich, for improvements in machines for darning. Dated June 23, 1879.
- „ 2522. C. Pieper—a communication from H. Pollack, of Hamburg, Germany, for improvements in perambulators. Dated June 24, 1879.
- „ 2526. W. E. Everitt, of Birmingham, Manufacturer, for improvements in foot warmers. Dated June 24, 1879.
- „ 2544. W. R. Lake—a communication from J. H. Schlott, of Freeport, Illinois, United States, for improvements in furniture castors. Dated June 25, 1879.
- „ 2653. A. M. Silber, of Wood-street, London, for improvements in oil lamps. Dated July 1, 1879.

- No. 2223. A. N. Wornum, of Store-street, Bedford-square, London Pianoforte Manufacturer, for improvements in the construction of grand pianofortes. Dated June 16, 1875.
- " 2352. A. V. Newton—a communication from J. E. Folk, of Brooklyn, New York, United States, for improvements in sewing machinery. Dated June 28, 1875.
- " 2368. H. Bland, of Luton, Engineer, for improvements in sewing machines and accessories thereto. Dated June 29, 1875.
- " 2387. J. M. Holmes—a communication from J. L. Sharp, of New York, United States, for improvements in gas stoves for cooking and heating. Dated June 30, 1875.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

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1881.

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No. 4901.	R. E. Phillips, velocipedes, &c.	6	
" 4980.	A. M. Clark, embroidering machines	2	2
" 4999.	W. Morgan-Brown, sewing machines	8	
" 5005.	E. J. Castle, velocipedes	6	
" 5018.	W. T. Sugg, gas cooking apparatus... ..	8	
" 5039.	T. Beddoe, apparatus for disinfecting water closets &c.	2	
" 5069.	E. S. Wilson, backbones of bicycles	2	
" 5074.	G. D. Macdougald, tricycles, &c.	2	
" 5086.	H. M. Mellor, knitting machines	6	
" 5106.	W. E. Price and W. D. Overton, velocipedes, &c.	6	
" 5113.	W. T. Eades, velocipedes	6	
" 5121.	L. Field, folding chairs	6	
" 5133.	A. J. Boulton, printing cross-stitch embroidering patterns upon various materials, &c... ..	2	
" 5139.	F. Beauchamp, velocipedes, &c.	6	
" 5142.	L. A. Groth, apparatus for warming or heating... ..	2	
" 5147.	J. Darling, oil lamps, &c.	2	
" 5148.	T. Steen, perambulators, &c... ..	6	
" 5149.	W. H. J. Groult, velocipedes... ..	2	
" 5180.	T. Bradford, machines for washing, &c.	6	
" 5183.	P. Spence, purification of water for domestic purposes, &c... ..	4	
" 5191.	A. C. Henderson, heating appliances	2	
" 5211.	J. Hunt and J. S. Fairfax, sewing machines for making button holes	1	0
" 5247.	J. F. Walters, apparatus and wheel pads for polishing knives, forks, &c.	6	
" 5251.	W. B. Brooker, washing machines	6	
" 5252.	H. J. Haddan, clothes dryer... ..	6	
" 5253.	J. T. Townsend, tricycles	6	
" 5279.	T. Ivory, apparatus for heating and cooking by direct radiation from surfaces of metals, &c.	2	
" 5284.	N. K. Husbery, tricycles and quadricycles... ..	6	
" 5287.	C. Beger, velocipedes... ..	6	
" 5304.	H. J. Haddan, operating the keys of organs, pianos, &c.	2	
" 5305.	C. R. B. Hamilton, saddles for bicycles, &c... ..	6	
" 5307.	J. Darling, oil, tallow, and grease lamps	6	
" 5319.	S. Sturm, increasing the heating power of domestic stoves and fire places	2	
" 5324.	W. Saunders, implements and receiver for cleansing floors, &c.	2	
" 5326.	A. Mill, washing machine, &c.	6	
" 5329.	C. A. Barlow, manufacture of machine embroidery	6	
" 5335.	W. R. Lake, apparatus for the manufacture of of pillow lace	6	
" 5377.	D. G. Cameron, water closets, &c.	8	
" 5392.	J. O. Spong, apparatus for producing musical sounds	2	
" 5394.	R. H. Berens, driving velocipedes, &c.	2	

A WONDERFUL COMPANY.

The following humorous article is taken from a journal published in Leeds, and known as the *Yorkshire Busy Bee*.

There's nothing like leather. So I've always understood, until that rascal of a fellow that supplies my boots told me the trade was clean "jiggered up," and it was all a fellow could do to get a clear sixpence profit out of a pair of boots. If he was here now I think I should bang my boots at his head, for before me lies a printed prospectus, sent me by post, asking me to become a shareholder in a tanning and boot manufacturing limited liability company concern, and showing clearly as A B C that enormous profits are to be made out of the trade. "Boots," it says, "are an absolute necessity, no trade in the kingdom is safer, and at the same time more profitable." And then it goes on into figures, and shows as plain as a pike-staff, in black and white, what whole hatful of money we shall make. I say we, because if I become a shareholder, I shall join of the giblets; and gentle reader, I had better intimate at once that I intend to say farewell to you—farewell a word that must be, and is, a sound that makes us linger, as the poet says. Do you think now that I'm going any longer to work my fingers to the bone quill driving, for your amusement and edification, week after week, for a mere pittance (comparatively speaking), when a golden prize like this boot concern temptingly glitters before my mind's eye? Certainly not. I'm going in for it the whole hog, and on consideration I think it is capable of being extended far beyond the limits named in the modest prospectus. But first let us analyse it. I have talked to friends about it. I have heard enemies speak about it. All the same, the golden vision has so taken possession of my soul, that I cannot sleep o' nights. I am going to borrow five thousand pounds of a fellow that I know will lend it me in a minute when he sees what a good thing I have got hold of, and then my fortune made at one throw of the dice. But I anticipate. I feel eager to get hold of the coin. Let me calm myself, and study the matter carefully through. First, then, the prospectus says the capital is to be £150,500; ten thousand preference shares are to be issued, and £7 is to be called up. This makes £70,000 to begin business with. Nothing like starting with plenty of money. The yearly net profit on this, after deducting all expenses, is put down as £38,969 9s. 5d.; of this amount £5000 is to be carried to the reserve fund, and we, the shareholders, are to have a dividend of 36 per cent. I shall vote for putting only £3,969 9s. 5d. to the reserve fund, and then we can have 50 per cent dividend every year. Then there's the belting left out. Look at the profits we shall get out of that. I have always heard the belting paid best. Second point is the stuff we shall make. The first thing that strikes me is, that all the old fogeys now in the leather trade are a long way behind—a century at least. This new plan will lick the old system into fits—make better leather, and make it "in no time," so to speak. Here is an example. By the new process we take 2,500,000 lbs of kips, or hides, or skins, weighing 10 lbs each at 8d. equal £35,000, and after tanning them, we then sell the same weight of leather at 1s. 2d. per lb., less 2½ discount, equals £142,187 10s. Now, the old fogeys sneer, and say, "How do you get 10 pounds weight of leather out of 10 pounds of kips?" We say, "Jump up that's our secret," Perhaps it's the climate or the chemicals that put ozone or oxygen into it. But I am not going to let any of the secrets out—not likely—Then, other fellows say, "How do you reckon up your profits?" What's that to them if only we do get them. And what I like the best in the whole prospectus is the figures as I said before. When they reckon up to sevenpence the total yearly cost of materials and licence (24,698 0s. 7d. and the net profits up to fivepence, then I say, that ought to shut up and satisfy anybody that it must be all right. Then again look at the great names that are on the directorate. History, no doubt, somewhere records the enterprises these men have undertaken; and so let anyone wag their heads until they come off, if they like. What do I care? I am quite satisfied—or rather, I shall be—if I can only touch that dividend a few times. The Leeds Cattle Market is to be removed to Copley-hill, and then the butchers say a good move for the new Leather and Boot Company to go in for

the cattle trade as well? No necessity to understand much about butchering—simply appoint officials paid by the town to do all the work, and send the meat out cut up in joints already to sell. Then, when the whole thing gets into full working order, they would only have to drive the cattle into one end of the Copley Hill Market, where their hides would be well tanned, and they would come out at the other end ready made boots, shoes, and belting. The third point is the extension and development of the trade. That this should not be a bootless pursuit, I would have a bye-law passed that every Board School should provide boots and shoes for the scholars, to be paid for out of the rates, the same as school fees, when the parents, for any reason, did not, or would not, pay for them. But no boots or shoes, or straps to leather the youngsters with, should be paid for out of the rates, unless provided for by the new Tanning and Boot Manufacturing Company. One step further might be taken without going beyond the bounds of imagination. The directors are staunch Liberals. Gladstone holds the reigns of government over an empire on which the sun never sets. Could not powerful Liberal influence be brought to bear, so that a clause should be inserted in the New Irish Coercion Bill, that all the women and children in Ireland that now go bare-foot should be compelled to wear boots or shoes, and the landlords be made to pay for them. Clauses might also probably be inserted in all the new treaties with foreign countries, providing the swathy Indians, the miserable Egyptian fellahen, and the naked savages with proper understandings, so that mankind erect and free, should tread earth's surface o'er—on soles made of our leather—

Woe is me! My prospects are blighted—my golden vision has fled! I am doomed to go on quill-driving. So, gentle readers, I shall not yet say farewell. Weep with me. This is how it happened. My friend is a rich old asthmatical man. He is a hundred thousand pound man, and very fond of me. He always said, "Now John, whenever you want to go in for a good spec., come to me; you shan't stick fast for two or three thousand." So, swallowing a hasty breakfast, I hurried off to see him.

"Jonas, I've dropped on to a good thing at last," I said, breathlessly; "and I want you to lend me five thousand. It's a regular coining job," I said; "will pay 36 per cent. first year, and it will never do to let it slip through our fingers."

"Well lad," he said, "I've t'hrass ready omny time, and as I've allus said, thou's welcome to it. But what is it all about? Is it a new gold mine they've fun, or some fresh diamond fields?"

When I told him it was a company got up to tan leather and make boots, I thought he was going into a fit. He burst out laughing, then he began to cough so violently that I thought he would choke; then he cleaned rolled off the chair on to the floor.

We got him round at length. "Hey, lad, thou's nearly killed me wi' laughing. I couldn't help it." Then he went on. "My experience of the world—and I have lived in it sixty-five years," he said, "is, that when omnybody's gotten hod of a vary good thing they generally like to stick to it thersens. Thou'd better let somebody else tak that first year's dividend of 36 per cent."

So I came back home—without the money, and thus my budding hopes have been ruthlessly blighted.

THE *Shoe and Leather Reporter* says: "The Wheeler and Wilson Manufacturing Company, Bridgeport, Connecticut, has long been one of the most thrifty corporations in the country, and their business seems to keep on increasing; their Boston office is at No. 594, Washington Street. We understand that nearly 2,500 of their machines are used by three or four rubber clothing companies, and that many thousands of them are employed in shoe factories. The large demands for the Nos. 6 and 10 machines has necessitated the putting on of night gangs to keep up with the orders. The cylinder machine for sewing the seams of boot legs, and the seam trimmer attachment have met, we learn, with great favor among boot and shoe manufacturers."

INTERNATIONAL LAW.

Social revolutions precipitate themselves, or grow, upon us unnoticed, according to whether they are held back artificially, or are permitted to progress conformably to their natural course. Changes, both in the internal relations of members of nations to one another individually, and collectively to surrounding peoples, are as inevitable as the action of the physical laws which govern our planet. No doubt, that some day, the true principles which should regulate our diplomatic and public relations as between one country and another, will be laid down as satisfactorily as the laws which regulate our social intercourse. Meanwhile, as long as these unnatural divisions into, or between, nationalities are tolerated, all we can do is to study the best means of diminishing the exaggerated political predominance which has sacrificed countless human lives, squandered the wealth of nature, and retarded the spontaneous development of intelligence and knowledge. We humbly venture to think that, in the present expansion of our social and international alliance, there exists no such powerful factor of peace as commerce. When two nations settle down into regular and organized trade, war between them becomes much less probable. If we succeed in extending this predominant levelling influence of buying and selling in the same degree between several countries, risk from military dangers become more and more minimised.

International trade has progressed with immense bounds during the last decade. States are now almost self-supporting which less than a generation ago hardly produced anything themselves, except perhaps foodstuffs. Industry is spreading all over Europe; few square miles of country exist which are free from the noisy pulsation of the steam-engine; deserts and seas, are spanned by the speaking wire. The merciless levelling process is rapidly going forward, and the inevitable principle of the survival of the fittest is ruthlessly forcing itself into matters commercial through international competition.

Progress from cycle to cycle of our industrial career is facilitated by our greater or less comprehension of the difficulties with which we have to deal with for the time being. Our present foreign development has reached one of these periods of transitional stoppage. There are two impediments in the way. The one is an imperfect international comprehension of the correct principles of supply and demand, as a consequence of which markets which should be accessible are closed, and nations which should possess an exporting surplus are, as yet, unable to supply their own requirements; the other is a want of international agreement as to strictly commercial and non-political legislation. Were it possible for us to realize a step onwards in International Law, our export trade, as also that of all nations participating in the common legislation, would progress in a more rapid ratio than that of the countries which might still hold aloof. There can be no doubt that the introduction of a common currency exchangeable amongst the powers of the Latin Union (France, Belgium, Holland, Switzerland, Italy, Spain, and Greece) was a source of considerable extension of trade between those countries, and had that currency convention been followed by a liberal tariff-agreement, that arrangement would have dealt a terrible blow at British industrial pre-eminence. The Franco-German War arrested the danger temporarily, but the Latin nations are entering on a fresh lease of power, and the mere possibility of their union is a standing menace against which we must constantly be on our guard. Our best and most pacific means of avoiding this danger is through the extension of international law.

"These rubber garments are such a blessing!" remarked a fat man, as he brought into a street car a perfect deluge of water. The lady at his right, who mopped one side of his coat with her costly dress, agreed with him perfectly; the man at his left, who caught about a pint of the drippings in his shoe, could scarcely conceal his admiration; while the young miss to whom the fat man gallantly offered his seat a few minutes later went into perfect ecstasies as she sat down in a pool of water left on the car seat.

SEWING MACHINE OIL HOLES.

By Spool Pin, in New York Sewing Machine News.

One fact must be conceded and that is, that our friend "Wag-wheel" is doing excellent service to the sewing machine trade at present with his accurate and useful "Hints to Repairers." There is no necessity, therefore, that I or anybody else should intrude upon the field he occupies to such great advantage. In the arena of mechanical writing I will take up a subject which will not obtrude upon his domain, but which is, nevertheless, a topic of considerable importance to all who are concerned with sewing mechanism.

Many machines have one or more oil-holes that are much too small. For instance, those in the bobbin-winders of the Singer machines, the Wheeler and Wilson, Numbers 6, 7, and 8; the Elias Howe, the Wilson and others. The same fault also exists in the holes in the take-up rocker, and in the upper and lower holes in the eccentric connection on the Wheeler and Wilson No. 8. And in fact, so it goes on through the entire list of sewing machines.

The great objection to small holes is that they easily get clogged up with oil, dirt, lint, dust, &c., which show themselves in a very damaging way by causing the machine to run hard, a difficulty which increases with the accumulation of these substances, all of which are foreign to the machine except the oil.

Of one thing there can be no doubt in the minds of experienced, practical people—it is far easier to keep a machine clean and in easy running condition if the oil-holes are large and reamed out a little at the top.

Small holes will not contain all the oil that issues from the oil can, and a large part runs off on the outside and dries on the machine, keeping it in a constant state of stickiness and dirtiness.

Therefore, I would say to the gentlemen at the sewing machine factories, with all due respect, that they will confer a decided benefit upon the uses of the machines they manufacture, save much annoyance, and practically improve those most useful of labour-saving appliances, if they will make the oil holes a trifle more capacious. Such an innovation would cost neither additional labour or expense. All of which is respectfully submitted, as the lawyers say in submitting their cases to the court. In my case, as a special pleader for the sewing machine public, let me hope that I will have the good fortune to get a decision in my favour.

HOW TO FILE TRUE.

By Check Lever, in New York Sewing Machine News.

To file a surface true, it is necessary in commencing, to squeeze the file tightly between the third and fourth finger and palm of your hand until you become used to it. Your position should be half left face to your work, with the middle of your right foot fifteen inches behind your left heel. To file true it is necessary to reverse your work often, as by this means you are enabled to see the whole surface, and see while filing whether you are filing true. When your work is so heavy that you cannot reverse it you had better file first to the right and then to the left, by which method you can plainly see the file marks, and this again assists you in filing true. The above will assist any one to fit the shuttle carrier hanger in the Singer machine, which should always fit perfect or it will bind and make the machine run hard even if it is put in loose, and is liable to break by becoming cramped.

I would advise the use of a half round file, as you can file close to the shoulder without injuring it. I prefer the half round to the safe edge, as the edge of the half round will cut a small crease and this will admit the oil and keep the guides well oiled. It would be well to try your hanger often, and when you can force it between the guides do so. When taking it out you will find bright spots and then use the end of your file on the spots and force it between the guides as before. Repeat this and you will soon have a perfect fit.

THE SEWING MACHINE TRADE OF AMERICA.

A contemporary of New York says: The exportation of sewing machines from this port and from Boston has increased within the last few weeks, and will, no doubt, continue to do so. This is due to a slightly improved trade in Great Britain, and the imposition of a more reasonable tariff upon machines imported into France. There are rumours of an intention on the part of the German Government to greatly increase the present tariff, which may account for the recent unusually large shipments of American machines to that country, manufacturers realizing that it will be safe to get a stock in before a higher tariff can be put into effect. As these rumours have not been substantiated however, we trust that they will be found to be without foundation. Germany, in common with other European nations, has discovered the merits of American articles, and most likely understands too well the best interests of the vast majority of her industrious people to discriminate against them unjustly. However, as Bismarck is said to have just now a fit of tariff revision, and is anxious to strengthen his position by courting favour and granting concessions in all directions, there may be some likelihood of his not turning a deaf ear to the entreaties of the German manufacturers, whom a prohibitory sewing machine tariff would delight beyond measure. But if there is any such danger the agents of American machines in Germany will scent it in the distance and make proper provisions against it.

Exports to Australia have been rather quiet of late—probably from a natural reaction after the "boom" the sewing machine trade had there at the time of the Sydney and Melbourne exhibition. The demand continues steady however, especially for that make of American machines that carried off the first prize at Sydney, and which has a good and firmly established trade.

To Havana, the Brazils and other South American points shipments continue steady, there being no material increase or decrease. It has always been a matter of surprise to us that some of the younger companies do not work up this portion of the export trade in their own interest, instead of leaving it to a great extent in the hands of the older companies. No trade pays better prices, or remits more promptly. If some of the new machines were introduced into these countries by the proper parties, they could not fail to sell well. The managers should think over this and set about it.

THE "WHITE" AT CHICAGO.

It has been whispered around for sometime that the Messrs. Whitcombs were going to try to surpass their former efforts in the decorating line, and that they would branch out on the fitting up of their new sales-room in State-street, and get away with everything that has ever been seen in that line in the sewing machine district, so when we dropped in at No. 237, State-street, the other day to see something *recherche*, with high expectations of a rare treat in store for our esthetic gaze, we were not disappointed. It was simply elegant, beautiful, perfect, and if artistic surroundings will add at all to the salability of sewing machines, then the Messrs. Whitcomb have done a most excellent stroke of business in fitting up this delightful boudoir-like sales-room in the greatest retail-street in our great City of Chicago. We have not the gift of description at sufficient command to undertake to do justice to the simple elegance of these new quarters of the "White," which must be seen to be properly appreciated. We beg to congratulate the Messrs. Whitcomb upon their elegant sales-room, and we trust that their nerve in securing and fitting up so expensive a place will be amply rewarded by the great increased sale of their already highly popular machine, which has a record in this city second to none for satisfactory qualities. *Sewing Machine Advance.*

ERRATUM.—In our June issues we gave the address of the Johnstone Ruffler Co., as Otta-va, it should have been Ottumwa, Iowa, U.S.A.

THE AUSTRIAN SEWING MACHINE TRADE.

The following letter dated from Vienna in June last to our contemporary the editor of *La Machine à Coudre* gives a good idea of the sewing machine trade of Austria:—

I firstly beg to apologize to you and your readers, having delayed so long, with the monthly reports about the sewing machine manufacture and trade in Austria, which I promised you. Different reasons I could mention for this, but it would lead us too far, and therefore it will be better to come to the subject at once.

Since the existence or the manufacture of sewing machines, in Austria trials have been constantly made to manufacture machines for different purposes, though this branch of industry has not developed itself half as much as in Germany.

No doubt, in Austria there are as many sewing machines used of German manufacture, as of Austrian manufacture, and the Sewing Machine Company, formerly Frister and Rossmann at Berlin, furnishes the greater part of them.

If we consider the total consumption of sewing machines in Austria, we shall see that the Singer Manufacturing Company stand at the head, they have not only one, but half-a-dozen of retail shops in Vienna, and moreover branch offices in all the larger towns.

The Howe and Wheeler and Wilson Companies are also represented here, but I cannot tell anything of their business for certain, I only know that both companies do not advertise much.

But to come back to the home manufacture, I must firstly tell that the manufacturers here are very fond of manufacturing specialties, and as a knowledge of this peculiarity is doubtless of some interest for your readers, I have spoken to the manager of a company, who stands in the first rank with respect to the variety and originality of their inventions.

The firm of Karl Schultheiss has been established since the never-to-be-forgotten exhibition and Krach year 1873, and manufactures sewing machines, which occupy at least a honourable place upon the market. They are for gloves, hat leather, fur, edging, knitting and bag sewing. I shall explain the purpose of some of them. I must acknowledge, that until now, I had no notion what an edging, fur sewing machine could be for.

Now I know what it is. The edging sewing machine is used by the clothmaker and the dyer, to cover the edge of the cloth with edging, that it might not be coloured as the rest of the cloth. The edging afterwards can easily be unsewed. The machine makes 200 stitches every minute.

The fur sewing machine does saddler's work, and sews hairy skins together; it therefore has a very ingenious additional attachment to stroke away the hairs.

The glove sewing machine has a circular needle and rotary hook, working from the right to the left, and from the left to the right.

A machine which makes the same stitch as if it were done by hand, is the hat leather sewing machine. It finishes seven gross per day with any material, be it thread, silk, wool, &c., and makes stitches very small.

The sewing machine for knitted goods is for sewing together gaiters, mittens, gloves, shawls, stockings, petticoats, &c.

As an example of the way the machine will work I would mention that 500 gaiters were finished in a single day. You can sew with every kind of wool of which the different objects are knitted. The elasticity of the stitch is extraordinary and the stitch is equal to that done by hand, but more regular than the latter.

According to the statement of the manufacturer, which afterwards was also confirmed by a purchaser, the bag sewing machine on stand finishes 550 bags a day, and this number could become still larger. Of course much depends upon the zeal and ability of the workman. From several other purchasers I learnt that a zealous sempstress made one bag every minute, which would total up the astonishing cipher of 600 bags a day when working ten hours.

Not less astonishing is the seam produced by this machine, it is over stitching with a lock-stitch, so that you need not fold the edge of the bag, as this seam closes it entirely. Moreover, this seam possesses the peculiarity of closing narrower the more the bag is filled, contrary to the seam made by hand.

The sewing material and the wages for every bag don't amount to more than half a penny, and the machine runs as rapidly as any other notwithstanding it weighs two cwt. and a half. A large number of these machines have already been exported to England, France, Germany, Spain, Holland and the Indies.

THE FUTURE OF SEWING MECHANISM.

What the future of sewing mechanism, says the *New York Sewing Machine News*, is to be about as difficult a subject as the prophets can venture upon. It is full of "vast possibilities;" and the finger posts of present indications point in widely different directions. The advocates of different systems are not without groundwork of apparent reason for their several beliefs. There are strong points to be urged in favor of them all. Many are firm adherents to the present shuttle system, its simplification and improvement; others contend that the movement of the shuttle must be changed—some favoring rotation, and others pinning their faith to an oscillating motion. There are many who would cast aside the shuttle altogether, declaring that the most natural course to follow, to find the perfection of rapid and perfect stitching, is in the direction of the Wheeler and Wilson system, with rotating hook and rotary movements throughout. Others, again, contend that mere rapidity and accuracy of mechanical motion is by no means all that is necessary; that the sewing machine of the future must be one that will run through the entire day without stoppage and that this desideratum can only be accomplished by running the upper and under threads directly from two spools simultaneously. This latter school, and some others, strongly favor the metalizing of machines, to avoid the stoppages and other consequences incident to oiling. Single thread systems also have their friends, but these are in the minority; it is pretty definitely settled to-day that their field is and must of necessity be a very limited one.

Each of the experts, then, has his own argument and dream of the future of sewing mechanism. The one point upon which they all agree with perfect unanimity is that the perfection of sewing mechanism has not been obtained. But they are all agog. While each has his theory he seems to be unable to elaborate it into practice, and the mist that hides the future is as impenetrable as ever. Perhaps it will disappear before the sun of some rising genius who will solve the problem at a stroke and give to the world a system of sewing mechanism which will completely supersede those now in vogue. We patiently await his coming.

In the meantime, however, let us thank heaven for what we have. If we never attain anything better, we have every reason to be well contented with what we have got. The modern sewing machine is a wonderfully perfect instrument. In accuracy and economy of movement for accomplishing the object sought it is the peer of any mechanism, except, perhaps, the mechanism of our timekeepers, which appears to have reached the climax of human ingenuity. But as the instruments of to-day show great strides of improvement over the devices of the early days of sewing mechanism we are justified in having great expectations, without looking for any sudden and radical revolution. Since the future has a happy knack of taking care of itself, we had best devote ourselves to improving what we have in the present. That is the true way to attain perfection, if it is ever to be reached. All else is mere speculation and barren of results.

WHEN are stockings like dead men?—When they are men-ded; or, perhaps, when their soles are departed; or, again, when they are all in holes; or when they are past healing; or when they are no longer on their last legs.

HE purchased his sweetheart a pair of ten-button gloves and handed them in at the door himself. The servant girl took them and going to the bottom of the stairs hawled out: "Please, miss, 'eres' a young man ez has brought you a pair of leggings.

THE SILK INDUSTRY OF THE UNITED STATES.

The Census Bureau's report upon the silk manufacturers of the United States furnishes important information regarding an industry which has come into great prominence.

So far as concerns the rearing of silk worms, it must be admitted that the many failures of past years have not been due to any lack of repeated efforts to establish it. Two centuries and a half ago King James I. sent silk worm eggs to Virginia, and the Colonial Assembly required every landowner in the colony, under forfeiture of tobacco, to set out ten mulberry trees for every hundred acres held in fee. In 1688 the Assembly offered a prize of 10,000 pounds of tobacco to whoever would make fifty pounds of wound silk; yet, in spite of penalties and rewards, Virginia silk culture failed. In the Carolinas and Georgia it had more success, the latter colony exporting about 500 pounds of silk a year, before the Revolutionary war. In Connecticut, silk culture had been specially flourishing, and this State was the first to resume it after the war, and became its head quarters. Windham and Mansfield are now simply reviving, by their manufactures, an industry which made them noted in earlier generations. The former had a silk factory before the Revolution, and in the latter most of the families were engaged in silk culture half a century ago. The introduction of the *morus multicaulis* or *morus alba*, the white mulberry, gave a spread to silkworm rearing which made it a popular sensation; but a blight in this tree, in 1843 and 1844, practically destroyed silk culture in this country.

After ten years the cultivation of the mulberry began to show signs of life again in California. By 1868 the product had reached 1,900 pounds; but though in 1870 a million mulberry trees were growing in the State, in 1878 silk raising had become almost extinct there. In 1880, according to the census report, native silk was used in manufactures only in Williamsburg (Kansas) and in Salt Lake City—Utah producing about a thousand pounds of it and Kansas five hundred.

The statistics which Mr. Wyckoff, the author of the census report, presents on the rise of American silk manufactures, are specially important, and form an offset to those on the repeated failures of silk culture. In the census year 1880 there were 356 silk factories in the five States of Connecticut, Massachusetts, New York, New Jersey and Pennsylvania, in which 18,962,310dols. was invested. It is singular that this region absorbs nearly all this industry, for the remainder of the United States combined, contained but twenty-six factories, with 169,000dols. capital. These factories employed 34,521 hands and paid them more than nine million dollars in wages. The value of the raw silk imported into this country for manufacture into goods rose from 53,350dols. in 1853, to 12,024,699 dols. in 1880. The greatest centre of silk manufacture in the United States is Passaic County, New Jersey, which has eighty-two factories, employing between five and six million of capital and annually producing more than fourteen millions dollars' worth of goods.

The silk industry, in short, has doubled since 1874. Of the entire amount of silk goods used in this country, probably the greater part is now manufactured here. It still remains to produce the raw silk here, instead of importing it. The formation of women's silk culture associations in San Francisco, Sacramento, and Philadelphia during the last few years has helped to revive an employment that has often failed. It is claimed that there are now 25,000 persons engaged in the culture of silk. Certainly in six Southern States, as well as in some Northern ones, good silk is now raised, and there are reeling mills in Huntsville, Memphis, and Salt Lake. The raising of silk in considerable quantities will probably be the next stage of development in the silk industry of America.

The Maru Yechiu Company, of Hiogo, Japan, has opened a London warehouse at 42. Charterhouse-square, for the sale of Chinese and Japanese goods, including staple commodities, in addition to porcelain, metal work, and curios.

IMPROVEMENTS IN VELOCIPEDES.

Mr. Robert E. Phillips, of 37, Great George-street, Westminster, has obtained letters patent for improvements in the the construction of velocipedes. It consists firstly of an improved differential driving apparatus whereby the speed of the axle to which the motive power is applied may be varied in ratio to the speed of the axle carrying the driving wheel or wheels to obtain either speed or power whilst the machine is in motion.

Secondly, an improved method of carrying a lamp on the axle of and within a wheel, whereby a steady bearing is provided for the lamp, and its position within the wheel regulated without the use of side guides.

In carrying out the first he employs two wheels, one on the axle to which the motive power is applied, and the other on the axle carrying the driving wheel or wheels, whose peripheries are free to expand and contract. These wheels are in equilibrium, that is to say, as one expands the other contracts in the same ratio, and therefore the driving belt or chain connecting them is always of one uniform length. By this means the axle to which the motive power is applied can be made to revolve at any proportionate rate to the axle which carries the driving wheel or wheels, so that either speed or power may be obtained.

The method he prefers to adopt in the construction of wheels with expanding peripheries is as follows:—Fixed to the axle is a disc which is provided with eight or more grooves radiating from its centre, into which fit an equal number of slides free to move to or from the centre of the disc. These slides carry segments of a ring which form the periphery of the wheel. The radius to which these segments are struck is a mean between the greatest and least radius to which the segments can expand or contract. Sliding on the axle but revolving with it is a clutch connected with the slides carrying the segments forming the periphery of the wheel by links, so that as the clutch is caused to approach to or recede from the disc so the periphery of the wheel is expanded or contracted. Both axles being provided with these expanding wheels, the clutches are connected by a suitable lever pivotted on a point centrally between them, and so place that as one clutch approaches to the other recedes from the disc, and thus as the periphery of one wheel expands the other contracts, and vice versa. The connecting lever between the clutches is connected by suitable means with a hand lever and quadrant, so that it may be held in any desired position in relation to the desired ratio between the speeds of the axles.

In carrying out the second part of this invention he provides loose sleeve or quill of any suitable metal on the axle of the wheel, between the hubs or flanges thereof, for the purpose of carrying a lamp which is clamped thereto, the axle being free to revolve within it; by this means a long and steady bearing is provided for the lamp, and the side guides as generally used to keep the lamp centrally within the wheel are dispensed with. Spheres or rollers may be interposed between the sleeve or quill and the axle to reduce friction.

Although any clamp may be used with arrangement provided the adjustment by which it is fastened to and allow to revolve on the axle is sufficiently small in its internal diameter to allow of its gripping the sleeve instead of revolving on it, he prefers to substitute for the leathers as generally used thin discs of metal of a similar shape, so that a more unyielding grip may be obtained on the sleeve.

Mr. Harper Twelvetees' business has been removed from Finsbury-pavement to spacious premises in the City-road, near Finsbury-square, where there is a large assortment of washing, wringing, and mangling machines.

Messrs. Brown and Green (Limited), ironmongers, of 72, Bishopsgate-street, Within (and Luton), will shortly remove to 69 and 71, Finsbury-pavement, the premises so long occupied by Messrs. Batty and Co., which have been taken in hand by Messrs. W. G. Larke and Son, for the needful alterations.

APPRENTICESHIP.

Under the new order of things the days of apprenticeship are virtually done away with, and there is no longer any serving such as Jacob did for Rachel, or as was the wont when a youth would learn the "art and mystery" of any trade or occupation. The novice jumps from the case almost as soon as he has learned it, seeks a new employer and blossoms (in his own opinion) into a full fledged craftsman before he is out of even the leading strings of knowledge. And the result of this is apparent to even the most superficial observer; the tendency is bad in the extreme, its effects fatal to proficiency, the permanent good of the trade, and utterly demoralizing to the workman, himself.

That anything worth doing at all is worth doing well is an adage true as trite, has been proven times beyond enumeration, and will remain unaltered as long as earth endures. No genius, however bright, can leap at once to the summit of perfection. The obstacles it overleaps may be the very ones that would contribute to success in future. Slow advancing is the lesson forcibly taught by nature. It requires years of growth to develop the boy into the man of strong and healthy muscle, and mind and sinews must be given time to increase in maturity and fitness of the trials to be encountered and the labors to be endured.

The fact is patent that (with honorable exceptions) the mechanic of to-day is not as thoroughly versed in the trades as those in the former times of faithful apprenticeship. True it has its hardships, and the system might have been improved; but did not the end fully compensate for all that had to be endured? Was not the clear grasping of every feature worth all and more than the cost? Is not a single mechanic grounded in the rudiments and who learned step by step until he arrived at the ultimatum (save only the motive and refining power of brains) worth a score of those who jumped at the conclusion and work without system or a clear insight of the why and the wherefore?

The argument that the great improvement in machinery and material makes learning a trade easier does not in the least do away with the force of the truth. Granted all that can possibly be said upon that; yet it does not, never can, ignore the facts or fail to convince the clear-headed that the result of apprenticeship was the production of good mechanics, whatever might have been the faults of the system. And though, under our present lights and the workings of society, it would be impossible and probably even impolite to return to it, yet the lessons it taught will ever remain, should not be forgotten, and the fast rushing age should not look scornfully upon that which contributed so much to the high standing we enjoy.

The lesson is this—is one we would do well to ponder and thoughtfully improve upon, if we can—that in our haste to accomplish, in the anxiety of the young to push aside and take the places of their elders, in the greed of gain we are unmindful of the necessity of proper training and continued practice.

This hardly ever happened under the old regime. Then boys had to learn; ample time was given them so to do; and when out of their "indentures" they were skillful and painstaking workers, and did not waste the time and substance of their employer in acquiring the knowledge they should have mastered before setting up for journeymen. Then accidents did not happen that would have been avoided by years of proper training, and then work placed in their hands was done in a creditable manner.

And something of this system is needed now. We have far too much of slipshod work; far too many filling important positions who are unqualified, and we almost long for ye funny cut of ye olden time newspaper of ye apprentice running away with ye bundle over his shoulder. But we cannot call back the years and return to what would be an odious system. Yet we can and should insist upon a thorough knowledge and a sufficiently long serving before giving place to men who aspire to the name and position and honors and rewards of the trade. This would be not only wise, but should be looked upon as a duty. The true and successful mechanic is never too old to learn; is never ashamed to ask ques-

tions, or to copy and try to improve on the good work and examples shewn him by another, even though that other chance be a rival of whom he is jealous. A true mechanic is ever ready to sacrifice much of present pleasure and enjoyment, for even "serimp" himself in necessary or staple articles, to the attainment of that knowledge which will hasten his steps towards the anxiously hoped for goal—a first class mechanic.

"MAKE IT ENGLISH."

Mr. Fox, the father of the orator, Charles James Fox, trained his son from childhood to share in the government of England. This anecdote shows the child's precocity.

While the elder Fox was Secretary of State he used to allow Charles to read all his despatches. One day, when the secretary brought home a paper which he had very carefully written—an answer to be sent to a foreign government with whom England had good cause to find fault.

He gave the paper to Charles, and asked him to read it. The lad did so.

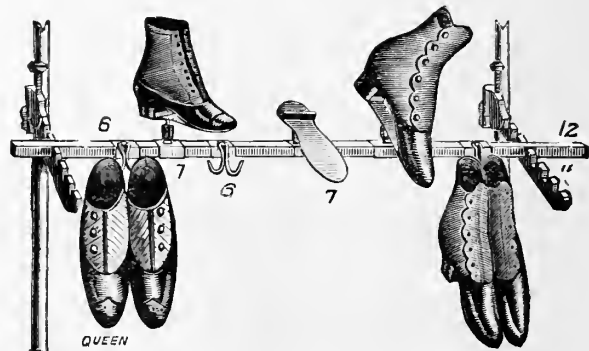
"What do you think of it?" asked the parent, earnestly, for he thought it extremely good.

The boy shook his head. Then he looked into his father's face; then he straightened himself to his full height, and smiting his little fist upon his swelling breast, he exclaimed:

"Oh!—make it stronger! make it—big!—make it—English!" Fox caught the inspiration from the look, the tone, the words of the boy. He threw the paper into the fire, and then sat down and wrote again, and produced a copy which electrified the country.

NEW PATENT SQUARE ROD FITTINGS.

The annexed cut represents new shop and window fittings especially adapted for the boot trade, patented and manufactured by McIlvenna and Co., Hilton-street, Manchester. The advantages of the square notched rise and fall brackets, and the square rods and fittings over the round ones, will be at once seen; as shown above, the rod fits into the square notched bracket, and is held



firmly, doing away with the fasteners hitherto used to prevent round rods from turning. The fittings numbered 6 and 7 are merely pressed on the rod, and require no fastening whatever, thereby saving time and expense. With these fittings window dressing will no longer be a labour, and when dressed there is no fear of rods turning or fittings falling off. Like all the manufactures of this firm, they are made of the best materials, and finely finished, both brass and electro plated.

Messrs. Treggon and Co. will shortly open their new premises at 19, Jewin-street.

Messrs. Clark, Hunt, and Co., of Bishopsgate, have opened a show room for their "Abbotsford" stoves, &c., at 49, Old Bailey.

THE LEATHER TRADES' EXHIBITION,

1882,

AT THE

AGRICULTURAL HALL, LONDON,

ON

September 14, 15, 16, 18, 19, 20, 21, 22, 23.

Sept. 14th will be a Private View day for the Press and by Ticket. On the 15th,
at Noon, there will be

A PUBLIC OPENING OF THE EXHIBITION

BY

THE RIGHT HON. THE LORD MAYOR, IN STATE.

PUBLIC LUNCHEON AT 1. TICKETS 10s. 6d. EACH.

This Exhibition will include all classes of Goods Manufactured or Sold by

**TANNERS, CURRIERS, LEATHER DRESSERS,
BOOT AND SHOE MANUFACTURERS,
FACTORS, MERCHANTS, MERCERS, MILITARY ACCOUTREMENT MAKERS, SADDLERS,
WHIP AND HARNESS MAKERS,
COACH BUILDERS, BOOT & SHOE MACHINERY MANUFACTURERS,
LAST MAKERS,**

Glue and Gutta Percha, Portmanteau and Leather Bag Manufacturers,

&c., &c., also

TANNERS' MACHINERY AND TOOL MAKERS.

LIST OF PATRONS.

W. L. JACKSON, Esq., M.P., Leeds.
THE WORSHIPFUL COMPANY OF SKINNERS.

FRANK HENDERSON, Esq., M.P., Dundee.
THE WORSHIPFUL COMPANY OF CORDWAINERS.

Messrs. ANNING & COBB, London,
" BOUTCHER, MORTIMORE & Co., London and
" BOUTS & ELLIS, London, [Liverpool].
" BLOOR & HEAL, London.
" BENSON, THOMAS, ELLEY & Co., Stafford.
" COCK, J., & SON, Shrewsbury.
" COX, W. H., & Co., London.
" DYSTER, NALDER & Co., London.
" DIXON, JOHN, SONS & TAYLOR, London.
" FISHER, N., & SONS, London.
" FLATAU, A. & W., & Co., London.
" GILLIGAN & SON, Reading.
" GOAD, RIGG & Co., London.
" HEPBURN & GALE, London.
" HEPBURN & SON, London and Dartford,
" HEMSWORTH, LINLEY & WILKS, London,
" HONISCHER, FRED. W., & Co., London.
" HOOPER, C. W. & SONS, London.
" JANSON, F. W., Esq., London,
" LION, LION & SON, London.

Messrs. LLOYD, EDWARD, & SON, Stafford.
" MILLER, J. & J., London and Canada.
" MORRIS & SON, London.
" MOLINIER & Co., Paris and London.
" MUNT BROS., London.
" MUSCOTT, GEORGE, Esq., Birmingham.
" NEWMAN, PHILIP, Esq., Kenilworth.
Messrs. POWELL, T. J. & T., London.
" POCCOCK BROS., London.
" POPPLETON & WALKINGTON, London.
" POWELL & SON, London.
" J. & E. REYNOLDS, Chesham.
" SHAW BROS., Grantham.
" SIMMONS & SON, East Peckham, Kent.
" SMYTH BROS., Liverpool.
" SILVESTER, W., Esq., Stafford.
Messrs. STAYNES & SONS, Leicester.
" STOKES & Co., Walsall.
" WINSER, E. J., & Co., London.
" WHITTARD, CRISP & Co., London.

Forms of Application for Space, and full particulars, may be obtained upon application to

JOHN H. RAFFETY, Managing Director,

AGRICULTURAL HALL, LONDON, N.

FREDERICK TANNER LAURENCE, Secretary,

36, ST. THOMAS'S STREET, LONDON, S.E.

Or to the Assistant Secretary, JOHN O'CONNOR, Agricultural Hall, London, N.

ESTABLISHED 1851.

BIRKBECK BANK,

SOUTHAMPTON BUILDINGS, CHANCERY LANE.

Current Accounts opened according to the usual practice of other Bankers, and Interest allowed on the minimum monthly balances when not drawn below £25. No commission charged for keeping Accounts.

The Bank also receives money on Deposit at Three per cent. Interest, repayable on demand.

The Bank undertakes for its Customers, free of charge, the custody of Deeds, Writings, and other Securities and Valuables; the collection of Bills of Exchange, Dividends, and Coupons; and the purchase and sale of Stocks and Shares.

Letters of Credit and Circular Notes issued.

A Pamphlet, with full particulars, on application.

FRANCIS RAVENSCROFT, Manager.

31st March, 1880.

THE

BIRKBECK BUILDING SOCIETY'S ANNUAL RECEIPTS EXCEED FOUR MILLIONS.

How to purchase a House for Two Guineas per month.

With Immediate possession and no Rent to pay.—Apply at the Office of the BIRKBECK BUILDING SOCIETY.

How to purchase a Plot of Land for Five Shillings per month.

With Immediate Possession, either for Building or Gardening purposes. Apply at the Office of the BIRKBECK FREEHOLD LAND SOCIETY.

Francis Ravenscroft, Manager.

Southampton Buildings, Chancery Lane.

PROPERT'S

IMPROVED

KID REVIVER

Having stood the test of 20 years is universally pronounced the most perfect preparation for Dyeing, Softening and Preserving Kid Boots, &c.

It restores the color and appearance equal to new, has a pleasant scent, and will not rub off or soil the clothing.

The peculiar softening properties of this Reviver preserve the boot supple and looking nice to the last.

PRIZE MEDAL,

Paris, 1878.



PRIZE MEDAL,

Paris, 1878.

PROPERT'S EBONY BLACKING,

A new Self-polishing, Waterproof Liquid, of an oily nature and great brilliancy. Suitable for Ladies' and Gentlemen's Boots and Shoes of every description. Polishes new or old leather instantaneously, without any brushing, and only needs to be used once a week.

PROPERT'S FRENCH VARNISH,

For Dress Boots and Shoes, lies evenly on the leather, gives a brilliant and elastic polish, dries quickly, and is free from stickiness or any unpleasant odour.

MANUFACTORY, BATTERSEA PARK ROAD, LONDON

THOMAS WARWICK,

Manufacturer of Bicycle Materials of every description.

Sole Maker of WOOLLEY'S PATENT SPRING SADDLES

PRICES.

No. 1, with Flexible Sides	6/- each
2, with Plain Saddle	3/6 "
3, with Flexible Sides for Tricycles	7/6 "
4, do. do. with Roll at Back	10/6 "

These Saddles for 1882, have several very important improvements, and are acknowledged to be **the most comfortable seat** for Bicycle or Tricycle, that are in the market. They afford great ease to the rider when riding over rough and bad roads, and on long journeys. The Seat is soft, and the edges being flexible, they give to the weight of the rider, and do not chafe the same as hard edges of ordinary saddles.

All kinds of Stampings, Rims, Spokes, Backbones, Hollow Forks, Hubs, Bearings, Pedals, Springs, Lubricators, Oil Cans, Saddles and Bags, Bells, Lamps, and all parts finished, and in the rough.

Price Lists and Testimonials free from the Works,

ALMA ST. ASTON NEW TOWN,
BIRMINGHAM.

JOURNAL OF DOMESTIC APPLIANCES

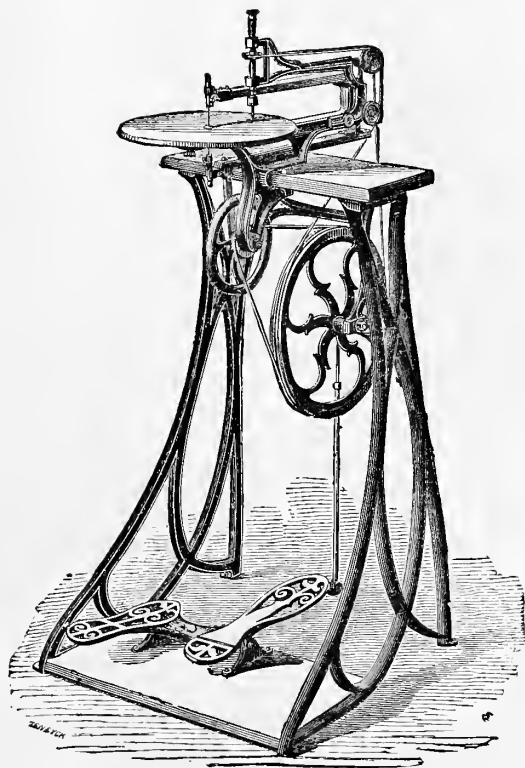
AND

Sewing Machine Gazette.



HE domestic machinery trades taken as a whole are now certainly busy. The sewing machine branch of it, is perhaps experiencing little more than a quiet steady demand, but a visit to Keighley, the seat of the washing machinery trade, would find the manufacturers really grumbling because they are pressed so with orders which they cannot supply fast enough. Bicycle manufacturers are busy, and those who makes tricycles, both at Coventry and Wolverhampton, have not only to refuse many orders, but have to make "the night joint labourer with the day," in order to supply their customers requirements. Gas-stoves and most other kinds of domestic appliances are experiencing a brisk sale. In ordinary course this large demand for domestic machinery would slacken towards the end of August, but an additional stimulus will be given it by the Domestic

SUPPLEMENT TO THE
JOURNAL OF DOMESTIC APPLIANCES AND SEWING MACHINE GAZETTE,
AUGUST 1882.



THE "DEXTER" SCROLL SAW MACHINE,

IMPORTED BY

CHARLES CHURCHILL & Co.,

American Merchants,

21, CROSS STREET, WILSON STREET, FINSBURY, LONDON, E.C.



Exhibition, which as our readers are aware opens at the Agricultural Hall the end of this month. The space has been well taken up, and it is expected that large purchases will be made by the trade and the public. Manufacturers must therefore not expect the strain upon their factories to cease much before the end of the autumn.

THOSE who let out sewing machines and other appliances on hire, will find reported in another column of this journal a case which touches on their interests. It will be seen, that by a carefully worded hire form, Messrs. Jones and Co. obtained an expression from the magistrate that the woman who had failed to pay for a machine on hire was bound to deliver it up to them. It was true she was given a fortnight to find the money, but at the end of that time if it be not forthcoming, she will have to give up the machine and forfeit the deposit. We cannot advise the trade to be too careful in the forms of agreement they use; those issued by the publishers of this journal have been specially drafted by counsel and are the best to use.

OUR ILLUSTRATED SUPPLEMENT.

—:O:—

We present our readers with an illustration of a good fret saw machine imported by Messrs. Churchill and Co. This machine is a triumph of simplicity and good work. Its exceedingly low price, combined with good workmanship and practical usefulness, puts it far in advance of anything of the kind ever before manufactured.

ANNUAL MEETING OF THE BLAKE AND GOODYEAR BOOT MACHINERY CO.

On the 26th June the annual meeting of the Blake and Goodyear Boot and Shoe Machinery Company, Limited, was held at their offices in Worship-street, Finsbury. An improvement was reported in the Company's affairs; the gross profit made during the year was £11,730 3s. 6d., and the balance carried forward to the new account being £61,715 2s. 9d.; there was a net profit of £1,658 8s. 4d. The directors declared a dividend of 3d. per share free of income tax. The report was adopted on the motion of Mr. E. Pocock, the chairman, and the directors were again re-elected.

DOMESTIC LABOUR-SAVING APPLIANCES AT THE BRADFORD EXHIBITION.

THE Bradford Exhibition, which was opened on the 23rd June, by the Prince and Princess of Wales, has proved a great success, and has been visited by a great number of visitors. There are a large quantity of exhibits tastefully arranged, which include sculpture, fine art furniture, pictures, various kinds of machinery, scientific apparatus and other objects too numerous to mention.

Turning to the industries represented by this journal, we find that the Singer Manufacturing Company make from the Bradford Branch a good show of their machines for every description of work. Messrs. T. and S. W. Cuttriss, Dodsworth-court, Briggate, Leeds, exhibit an electro motor working a Singer machine. Messrs. S. Clayton and Co., Paradise-street, Bradford, show several gas engines for driving small machinery. Mr. Robert Martin, Old Charlton, Kent, shows a mechanical contrivance for horse clipping. Mr. Jabez Smith, Bradford, showed a sewing machine worked by an electric motor, also a knitting machine and a gathering and gauging machine for gathering and trimming ladies apparel. For the purpose of frustrating the efforts of gentlemen of the Bill Sykes

profession, Mr. Charles Gill, of Hampden-place, Halifax, placed before the notice of the public some capital window fasteners and burglar alarms. Messrs. M. Glover and Co., of Dewsbury-road, Leeds, show some capital fire-wood chopping machines, which were marvels of ingenuity. A handsome bicycle is shown by Messrs. Bagshaw and Sons, Hillfoot, Sheffield, and some excellent street tyres are also seen on this stand. Mr. Harrison, of Portland-street, Manchester, shows several stocking knitting machines, and knitting machines which are ingenious contrivances. In washing machines we notice that Messrs. Kenworthy and Co., of Oldham, made a good display of the "Paragon" and "Canadian," while some breadmaking and baking machines are shown by Messrs. F. and C. Hancock, of Dudley. Spring mattresses, portable beds and such articles are exhibited by Messrs. Chorlton and Dugdale, of Manchester, and some excellent water filters are shown by Mr. Cheaven, of Boston, while Messrs. W. M. Jowett and Co., of Manchester, makes a similar display of filters, but on the block principle. A patent knife and fork cleaner, a freezing machine and other domestic novelties are seen at the stand of Messrs. J. Beesley and Co., of Peterborough.

* * * *

The Fifty-first Annual Exhibition of the American Institute, of New York, will open on September 27th, about two weeks later than last year's opening. The managers will soon be ready to receive applications for space. Efforts are being made to present at this fair a complete historical exhibition of the manufacture of cotton and woollen cloth, from the raw material to the finished fabric. Such an exhibition will prove a very interesting feature of the fair, as it would present every appliance and process used from the early stages of the art down to the wonderfully improved machinery and methods of the present day. Owing to the fact that manufacturers are not so driven with orders this year as they were last, the machinery exhibits will be far more varied and complete than at any previous fair. It is hoped that the sewing machine industry will be represented by every company in the business, from the oldest to the youngest. A full exhibit would make an interesting display.

A MACHINE FOR WASHING FLOORS.

Provisional protection has been obtained by Mr. William Saunders, of Stepney, for an improved implement and receiver for cleansing floors and other surfaces.

The implement consists of a block of wood or other suitable material, preferably of a triangular like form. He attaches on one of the inclined sides in a slanting direction a handle similar to a broom handle; on the opposite side he pivots arms or supports to carry a roller of India rubber or other suitable material for the purpose of acting as a "squeegee." The arms stand sufficiently forward from the incline side of the block to allow free action to the roller. The arms are retained in the necessary position to keep the roller off the side of the block by means of suitable springs.

On the side of the block intended to come nearest the surface to be cleaned he attaches an ordinary cleaning brush by any suitable means.

In place of the circular squeegee a fixed piece of india rubber or other suitable material may be attached to the block.]

To assist the cleaning operation he proposes to convey water under the brush by a flexible tube attached to the block, having an exit under the brush. This tube may run down the handle and have a cock at top and be connected to a water main.

The receiver is preferably formed of metal, in form somewhat similar to a dust pan, but the outer or front edge is inclined downwards, and the back part is enclosed all round to form a rectangular receptacle, so that when the receiver is placed flat on the surface to be cleansed, the mud or dirt, being forced up the incline, falls into the back part and is retained there, thus taking up the same from the surface. The receiver is furnished with a suitable handle. The implement and receiver may be used either separately or in combination.

THE SEWING MACHINE OF THE PAST, THE PRESENT AND THE FUTURE.

The sewing machine of 1852, and the sewing machine of 1862! only 20 years, and how different the style, the running, the workmanship, the mechanism. Twenty years ago the sewing machine was cumbersome, horrid in style, hard running and noisy in operation. There was but little attention paid to adjustment in case of wear. But note the change in twenty years! The machine of to-day is made light, yet strong, by judicious arrangement of plan with this special end in view, graceful in style, light and easy running, and, what is of the greatest importance, every wearing surface and joint is amply provided with the means to compensate for wear. All wearing surfaces are hardened; if of steel they are tempered; if of iron case-hardened.

That the fierce competition of different companies to excel each other in the merits of their machines has wrought some of this improvement is very true, yet not all. As the public came to learn and understand the machine, a demand arose for good and durable mechanism, and for this the public was willing to pay a good price. But what gave the greatest impetus to good work was this: About the time of the close of the late "unpleasantness," when there was a little demand for their labor, the class of workmen who were skilled in the manufacture of fire arms were being thrown out of employment, the demand for fire arms having ceased. In looking for situations the sewing machine factories offered a class of work, in some respects very similar to that in which they had been engaged. There their services were needed, and there they went, carrying with them their method of labor, exactness of measurement and the system of reduplication of parts. Employers were not slow to observe the great advantages that would accrue from this system, although it might cost something to put it in operation. Reduplication of parts, where there was constant demand, would in the end tend to produce these parts at cheap rates, and that too, with a low price grade of labor. The work of sewing machine making was revolutionized, resulting to the purchasers in the possessing of better machines and to the manufacturer in accumulation of greater profits.

From the sewing machine factories the system of gauge-work and reduplicating parts has widely extended and is becoming general, not only in small work but large; not only in guns, sewing machines, chronometers, &c., but bicycles, engines, locomotives and the like.

Eli Whitney, senior, at his armory, near New Haven, Conn., was the parent of the gauge system and the method of reduplication of parts. The application was to fire arms. His system has been copied and is now becoming almost universal. Not only this, but the methods of hardening and tempering as employed in the armories, copied in the sewing machine factories, are being appreciated, and they too are being extensively employed. From the inspection of the family sewing machine, the public has learned what constitutes really good work and the demand has grown accordingly and now calls for similar work in other machines.

Nor is this all. The decimal system of measurement, by hundredths and thousandths of the inch, as employed in the armories, has been copied by the sewing machine men and from them is now rapidly extending to other mechanism. Formerly there were no instruments within the reach of the mechanic to readily measure these minute divisions, and beyond the hundredths but little attempt was made. It remains for the sewing machine trade to bring out such appliances for their own use and also afford them at a price that almost any workman could obtain them. With simple measuring appliances the measurement of thousandths of an inch, yes, and two, and even four thousandths of the inch, do not discourage the mechanic in sewing machine making. In fact, when once initiated, they general like to work to such close divisions.

The sewing machine of the future promises to be a piece of mechanism as perfect as human hands can produce, beautiful in

its proportions, simple in its parts, light and almost noiseless in running, and adapted for long time use and continued operating.

Long years of labor, competition, and strife to excel, have promoted study to make a really good article, and the result is that sewing machines are now produced concerning which the mechanic proudly says, "I helped make that"; the agent who sells declares "None are better made"; and the manufacturer who counts the increasing repetition of orders, bringing checks to his cash box, feels an honest pride in incurring expense to make his machines better and more worthy of public acceptance.—*American Exchange*.

GUARANTEES AND INDEMNITIES.

A CORRESPONDENT who has obtained from the father of his debtor a perfectly valid-looking guarantee in writing, and completely formal, has been much shocked says our contemporary the *Warehouseman & Draper*, and surprised at learning from his lawyer that it is quite useless and merely paper. This result has arisen from his having overlooked the very principle of a guarantee, for it seems that it was not until after the goods were supplied to the son, and, in fact, not until after that son's affairs became doubtful, that he went to the father and obtained this written guarantee which he has since found so deceiving. Yet it is quite clear that a guarantee given wholly without consideration is utterly void. It is necessary to the legal validity of every guarantee that it should be in writing. But this necessity does not do away with any of the other requisite of a simple contract, so that a writing, however formal, must, like every other promise by word of mouth, be supported by a consideration. Now in the case of our correspondent there was no consideration whatever for the liability taken upon himself by the father, and therefore it could not in law be held binding. If the creditor had foreborne to sue the son because of the father's guarantee, or had given him further credit in consequence, either would have been a sufficient consideration, but neither of these events had happened, and so the contract fell to pieces.

In order, then, that a guarantee may be valid it must be based upon a consideration. If one promise is to be made responsible for the debt of another, this must be done before that debt is incurred. Where the guarantee is for the price of goods sold, it must be given before the sale, or at least before the delivery. There are, of course, other considerations, as where, for instance, a creditor in pressing his debtor for payment, and in consideration that he waits a certain time, or even generally forbears to take proceedings, a third party guarantees the debt, that will be sufficient to make his written promise binding. Although a past sale of goods or the like is not a good consideration to support a present promise, yet if with that there be coupled a future credit in advance, the guarantee will be effectual. Thus where a creditor, having doubts about his debtor, refuses to let him have more goods without a substantial guarantee, he can make his past debts quite safe by joining them with future credits and getting the guarantee for both together. A guarantee providing for payment of a present existing account, and for whatever may be owed in the future, would be perfectly good, because the giving future credit would be a sufficient consideration. If, however, a written guarantee be given after the goods were sold or the money advanced, in pursuance of a verbal promise to do so made before that event, then the writing will relate back to the earlier date, and so the consideration will become good and the guarantee be binding.

The next important point to be remembered, and it is one which strangely enough is often overlooked, is that every guarantee to be valid must be in writing, a merely verbal promise, however well it may be supported by the best of considerations, is of no value, and cannot be enforced. The reason of this is that the Statute of Frauds, which was passed in the reign of Charles II. and has probably caused more litigation than any Act of Parliament before or since, requires every guarantee to be in writing. By a subsequent statute it has fortunately been enacted that the consideration for the guarantee need not be stated in writing, but may be proved by verbal evidence. Until this was declared the law, very few documents purporting to be guarantees were sup-

ported; but now all that is required is that the writing should contain a clear and definite promise. Wherever the guarantee relates to the sale of goods it does not require a stamp, but in all other cases, as for instance for the payment of money advanced and the like, it must have a sixpenny stamp as an agreement. Care should be taken by a creditor when obtaining a guarantee to get it plainly worded and definitely expressed. For a mere offer to become guarantee contained in a letter would not be sufficient, unless and until it was proved that the offer had been accepted by the creditor, and so made binding.

It is of course necessary that besides being in writing the document purporting to be a guarantee should be signed by the party to be charged or by his agent lawfully authorized. Where the person who is about to be guarantee objects to writing or signing anything, although quite ready to promise everything verbally, the trader's best course is to ask him if he will become liable for the goods right out and in his own name. If that be done, and the trader gives credit to this person, although the goods are actually delivered to another, he will be safe enough; while if he relies upon a merely verbal promise, or gets his written guarantee after the goods have been sold and delivered, he will find both alike worthless. Somewhat akin to guarantees are representations made by one party to a trader as to the character, credit, or responsibility of a third party, in order to induce that trader to supply the latter with goods upon credit. Here again writing is absolutely required by the same Statute of Frauds, and however false or fraudulent those representations may be, so long as they are merely verbal, the trader will have no right of action, and will be quite unable to recover anything for the money or goods he has lost from the party by whom he has been deceived. Hence it follows that in all transactions of guarantees and indemnities writing and signing are essential, and unless the person promising for another will write and sign them, his words, however strong, will be legally worthless.

COUNTY COURT BUSINESS.

The County Courts are becoming more and more important as parts of the legal system of the country, and they are most undoubtedly destined to attain the position of Court of First Instance, as they are called upon the Continent. At present, however, they still retain many traces of their origin as emphatically courts for the recovery of small debts and demands. It was for this purpose that they were established in 1847, when the wide jurisdiction they now enjoy was never intended or imagined. The idea upon which they were based was that justice should be taken to every man's door, and that the poor should have at hand courts of simple and economical procedure. When this theory was carried out the superior courts were full of abuses, being dilatory and expensive as to their proceedings, and highly technical in their organization. The new County Courts therefore seemed all that could be desired by comparison, and were undoubtedly a great boon to the smaller class of creditors. Since then the High Court has been so improved, so simplified and cheapened, that its process is now positively shorter and sharper for undefended cases than is that of the County Courts. But by recent legislation creditors have been practically compelled to use the County Courts for all debts under £20, and in this way the defects of the County Courts system its slowness and expense, have come to be widely felt by men of business. Of course, where an action has to be tried, the County Court is still vastly better than the High Court in many ways, but we are now only dealing with undefended cases.

In the annual returns just issued for 1881 there is contained a summary of the business done during the last eleven years which is full of interest and instruction for all who care to understand the subject. From the figures there given we find that the 898,810 plaints issued in all courts during the year 1870 for sums below £20 had risen to 1,081,879 in 1880, though oddly enough it fell to 1,022,340 in 1881, without any apparent reason, and although it had been 1,028,501 in 1879. It is not easy to account for these

fluctuations, unless it be that debtors paid more readily last year than the two years preceding, because times were better. But the most striking point to be noticed in those returns is that the numbers of cases taken to the County Courts for sums between £20 and £50 have been steadily decreasing since the year 1876. In that year there were 17,378 such actions while in 1881 they only amounted to 12,689. Now it must be remembered that for amounts between £20 and £50 the County Courts have to stand upon their own merits, and are in active competition with the High Court. Up to £20 they are in this sense protected, that although a writ may be issued in the Superior Courts for any sum over 40s., no costs can be recovered, unless the amount sued for exceeds £20. As the jurisdiction of the County Courts stops at £50 for ordinary claims of debt and damage, it is evidently in the number of cases taken to them between these months that we have the true test of their success in meeting the public requirements.

What then are the reasons for this falling off in the better class of business in the County Courts? They can be easily stated. If a creditor wishes quickly to recover a debt of £20, and goes to his lawyer for that purpose, he will at once be told that to issue a writ in the High Court is at once the cheapest and quickest mode of proceeding. Nor is this advice at all due to professional prejudice against the County Courts, but simply to the undoubted facts; for, in the first place, with a writ no questions of jurisdiction arise, while, if the case be taken to a County Court, the right one must be chosen, and this may be, and often is at a very inconvenient distance. Then the actual money out of pocket for a writ is only 5s., while a County Court summons for this amount costs 21s., which is pretty well to begin with, and is a substantial sum to lose. Again, a writ only runs eight days, and at the end of this time judgment can be signed in default of appearance, and execution at once issued, also at but a small positive outlay. In a County Court, upon an ordinary summons, there can be no judgment until the hearing, which may be a month or six weeks after its issue; while, if the new form of default summons be used, sixteen days is allowed the defendant in which to appear. Once more, in the High Court, if a defendant appears he must prove he has a defence or judgment will be given against him upon an application that can be made at once by the plaintiff; while in the County Court there is no such form of procedure; and, however utterly undefended the case may be the plaintiff must wait until the day fixed for its hearing, and when he does issue execution he must pay 1s. 6d. in the pound to the bailiff as a preliminary fee thereon.

This system has now been in force in the High Court, since the year 1875, when the Judicature Acts came into operation, a date which probably explains the falling away of the larger cases in the County Courts from 1876 downwards. But this process serves to show the points upon which the popular tribunals need to be improved. Their court fees should be reduced, for the scale of proportion upon which they are payable, though well enough adapted for petty sums is clearly not suited to cases of £20 and upwards. In fact to get judgment and issue execution in a County Court for a sum of £21, it is necessary to spend nearly £5 in hard cash in mere court fees out of pocket. Then the slowness of the County Courts should be amended. There is no valid reason why a summons should not, as does a writ, run for eight days only, with a judgment by default at the end of that time where there is no appearance. Nor would there be any difficulty in extending the system of the High Court to the County Courts, and compelling a debtor to show he has a real defence before he is allowed to put his creditor to the expense of a trial, and keep him out of his money meanwhile. Such are only a few of the main points upon which reform is wanted, before the County Courts can be satisfactory to men of business.—*Warehouseman and Draper.*

MESSRS. E. ASCHERBERG and Co., pianoforte manufacturers, have removed from Queen-street to 135, London Wall.

MR. W. J. FOX, hot water engineer, late with Messrs. J. Jones and Sons, has commenced business at 12, South-place, Finsbury.



BILLS OF SALE.

Bell, J. M., domestic machine manufacturer, 220, Upper Thames-street; £300. To M. Atkinson. Filed June 19.

Archer, E., manufacturer of domestic machinery, &c., 9, Essex-road, and 23, Brownwood-road; £77 13s. To E. Hewitt. Filed July 4.

LIQUIDATIONS.

Bromhead, H., ironmonger, trading as Bromhead and Co., Market-street, Earlstown. July 10. Ridgway and Worsley, solicitors, Warrington.

Porter, J., sewing machine agent, Barton-street, late Walcot-street, both Bath. July 12. A. Essery, solicitor, Nicholas-street, Bristol.

DETAINING A SEWING MACHINE.—Thomas Crump was charged on the 27th ult at the Thames Police Court, with unlawfully detaining a sewing machine, the property of Messrs. Jones and Co.—The prosecutors are in a large way of business, and in the practice of allowing their customers to have different classes of sewing machines, to be paid for in weekly instalments. The defendant's wife who is a dressmaker, entered into an agreement with the prosecutors to purchase a machine value £7, to be paid for in weekly instalments of 2s. 6d., but the very first week she had it she did not pay, and was very much in arrear, although she still earned money by using the machine.—Mr. Lushington said the prosecutors had a right to take the machine back if the defendant did not keep up her weekly payments, and he would adjourn the case for two weeks to give her an opportunity of paying them. If she did not do so he should be bound by the agreement to order her to give up the machine.

EXHIBITION NOTES.

The Life Protection Exhibition, at the Alexander Palace, closed on the 29th ult., when the Duke of Teck visited the Palace and announced the awards of the jurors.

Among the curiosities in the exhibition line is a Mortuary Exhibition, to open at Rochester, N.Y., on the 19th of this month, at which will be shown the various goods and appliances used in connection with the burial of the dead.

The fine building set apart for the Berlin Exhibition for Hygiene and Life-saving, which was nearly ready for opening, was destroyed by fire on May 12, with all its contents. This catastrophe will delay but not prevent the exhibition. Liberal subscriptions have already been made toward providing a new building.

An exhibition of agriculture, mechanics, commerce, and art, now in progress at Nuremberg, Bavaria, is said to be the largest ever held in Germany. There are upward of three hundred exhibitors, representing all branches of trade and industry, with interesting exhibits of raw products, materials partly manufactured, articles of trade, machinery, and general works of art.

The loan exhibition of pictures at the Royal Institution, Manchester, which had been open for eight weeks, closed on the 8th ult. As regards payment for admission, it is stated to have been

a failure, nor did it attract, as was expected, the working classes, although as an inducement to them to visit it, during the last week it was open no charge was made for admission, and the hour of closing it was extended.

The Naval Exhibition which is to be opened on September 6, at Tynemouth, promises to be of more than merely local interest. It is to be an exhibition of naval architecture, marine and submarine engineering, and fishery, life-saving, and coast-lighting appliances. There will also be a department for the display of coal, coke, bricks and other products and manufactures of the Tyne district; and special attention will be given to the obtaining of models of the best methods of shipping coals.

On the 28th inst., and subsequently, there will be a novel exhibition at the Art Furnishers' Alliance, Limited, 157, New Bond-street, W., consisting of a series of examples of wall decoration, produced by the exclusive use of ordinary brown paper, sugar paper, soap paper, and other cheap materials, the desire being to demonstrate that true art effects can, by these means, be harmoniously introduced. This adaption, of which we shall probably have more to say hereafter, is not unlikely to effect something of a revolution in the internal decoration of our homes.

The South American Exhibition which was opened at Buenos Ayres on the 12th of March, so far as heard from is a grand success. The exhibition was especially planned to forward South American industries; and for that reason, all foreign products, except machinery, was excluded. What most struck the observer was the extraordinary variety of native products and the very poor showing of native manufacturing industries—such manufactures as were represented being due to foreign residents. The products of the soil showed the extraordinary fertility and richness of that part of the continent.

The Second Exhibition of the New England Manufacturers and Mechanics Institute will be held in Boston during September and October. The exhibition building of this association is said to be the largest and finest in the United States. Blank forms for application to exhibit will be furnished upon application to the treasurer, Mr. John F. Wood, 38, Hawley-street, Boston. The display of the present year is expected to eclipse that of any previous year; and the magnificent exhibition of last year is a proof that such expectations will be realized.

The Third International Electric Exhibition is to come off at Vienna in September and October next. The chief particulars were settled at a recent committee-meeting. Invitations are to be sent officially to foreign governments. The objects sent are exempt from import as well as export duty, and the respective patents to be duly protected during the term of the exhibition. Local committees are already sending applications from Germany, France, England, Belgium, United States, Holland, and on a large scale from France, more particularly from Paris. Thus far seven stationary engines, equal to 1,000 horse-power, are to supply the motive power.

The Tenth Cincinnati Industrial Exposition will open on September 6th. No charge will be made for space or power, but an entry fee of two dollars will be required from all exhibitors; and exhibitors competing for more than one premium will be required to pay an additional fee of two dollars for each premium competed for. Applications for space may be made at any time after the present, and should be made as early as possible, and at least three weeks prior to the opening of the Exposition. Arrangements have been made for the cheap transportation of articles for the Exposition from all parts of the country, and for their removal from the depots and wharves to the place of exhibition with safety and at low rates.

IMPROVEMENTS IN TRICYCLES, &c.

Mr. G. D. McDougald, of Dundee, has obtained Provisional Protection for the above invention.

This invention, which consists in building various parts of the machine in a new and novel manner; has for its object to render the propulsion and steering of the machine easy, and to decrease friction in the moving parts, so as to enable the rider to mount hills with ease. The invention consists,—

First. Of bars attached without the intervention of a connecting rod or link directly to the crank of the driving wheel or wheels, and having pedals fitted on at the other extremity. These bars are supported by any convenient means to any convenient part of the framing of the machine, and in such a way as to allow of the bars following the motion of the crank. A link depending from the top of the machine, or a slide with or without balls, are convenient methods of attaching the bars. There are means taken with the aid of a small worm wheel or other arrangement for moving the point of support, so that the rider without leaving the saddle may increase the power when going up inclines.

Second. Of a method of steering two front wheels without the use of forks, and which at the same time allows of a perfectly open front to the machine. This is effected by mounting the steering wheels on studs which at their points of attachment to the frame are jointed. These studs are provided with projections inward. Two steering rods are attached to these projections, one to each, and these pass back to a central transverse lever, which in turn is moved by the steering handle.

Third. Of a new form of bearing having a resemblance to that known as the "dumb bell" bearing. The rolling portion differs therefrom—1st. In having the middle or narrow portion of the rollers cut in such a manner as to leave perfectly paralalled faces which bear against the edge of the case. 2nd. In having cut on the bearing face a narrow groove. These devices act so as to prevent the side cant or twisting action to which these bearings are liable.

IMPROVEMENTS IN MACHINES FOR WASHING, &c.

Mr. Thomas Bradford, of Manchester, has obtained letters patent for improvements in the construction of machines used for washing, wringing, and mangling, part of which invention is also applicable to churns.

The improvements that relate more especially to washing machines consist of rectangular or other shaped washing vessel with a solid partition extending its entire length, thereby forming two compartments; the vessel itself he proposes to fit with a water tight lid or cover of a peculiar construction hereafter described.

The longitudinal division, which he proposes to make of wood or metal, is a fixture and perfectly plain, an open space for the flow of washing ley being left directly under this division, and also a similar space directly over this division and under the lid. At right angles with the plain division he proposes to place a series of deep corrugations that is equal to the depth of the space left between the bottom of the division and the bottom of the vessel and these corrugations the washing ley will flow from one division of the vessel to the other, the linen remaining in the compartment in which it is placed.

He proposes to construct the lid in such a way that it will fill up the spaces between the top, inside of the washing vessel, and the upper edge of the plain division, so that while it allows the water or washing ley to flow freely from one division to the other the linen is retained in the compartment in which it is placed.

The improvements relating more especially to churns consist of a similarly constructed vessel with a similarly formed plain division made of wood, or other suitable material, but differing from the washing machine in this respect, that the space between the upper and lower sides of the interior of the washing vessel and the upper and lower edge of the division are left quite open and perfectly clear of any obstruction, so that the hand can be passed through at any part. When rotation motion is given to the vessel by hand or

other motive power, this central division or fixed louver being in the centre of motion coincident with the two centres upon which the vessel revolves, causes a remarkably easy and most effective churning agitation, differing entirely from that of any other churn hitherto made; and, further, in addition to exercising this effective agitation, also accomplishes in a more efficient manner than hitherto obtained the collection and solidification of the small granulations of butter as they form during the churning process. He also propose to adapt to the washing machine a novel arrangement of reversing gear by which the washing compartment, or vessel or vessels, can be made to move a given number of revolutions in a forward direction, and then to reverse a given number of times in a backward direction. For this purpose he keys or fixes upon the axle of the washing vessel a worm driving a worm wheel (or a bevil or spur pinion driving a bevil or spur wheel); and upon the upper or outer face of the wheel he has pins, projections, or cams so arranged that in revolving they act against the lower arm of a lever and cause it to oscillate upon its central stud. This lever is connected to the driving strap or straps, and on the upper end thereof is an oblong box or receiver containing a cannon-ball, shot, or rolling weight. As soon as the lever is carried past the centre in either direction by either of the pins, projections or cams on the worm, bevil, or spur wheel, the balls run from one end of the box to the other, and by its additional weight assists the lever in moving the strap or straps from one pulley to the other. And thus, as the pins, projections, or cams in revolving move the lever first in one direction and then in the other the direction of revolution of the washing vessel is changed likewise, and according to the ratio between the worm, bevil, or spur pinion and its relative wheel this change takes place only once in any given number of revolutions.

He further proposes to apply a similar reversion motion to two or more rollers for wringing, mangling, and calendaring machines.

EXPORTS AND IMPORTS OF SEWING MACHINES DURING JULY.

EXPORTS.

Cape of Good Hope, 1 sewing machine
Cartagene, 6 cases.
Colombo, 12 sewing machines.
Constantinople, 8 packages, 7 sewing machines.
Melbourne, 59 cases.
Demerara, 23 sewing machines.
Dominica, 3 sewing machines.
Algoa Bay, 12 sewing machines.
East London, 120 sewing machines.
Hambro, 4 sewing machines.
Madras, 6 sewing machines.
Auckland, £520.
Alexandria, 1 case sewing machines.
Beirbort, 20 ditto ditto.
Santander, 5, ditto ditto.
Valencia 5, ditto ditto.

IMPORTS.

Week ending Saturday 8th ult.—E. H. Rolfe, £172 from Holland; H. Loog, £525 from Germany; E. H. Rolfe, £10 from Belgium; E. H. Rolfe, £90 from Germany.

Week ending Saturday 15th ult.—Rennick, Kemsley, and Co., £350 United States; F. Stahlschmidt and Co., £89 from Germany; J. Ibery, £80 from Belgium; Andrew Andrew and Co., £80 from Belgium; H. Loog, £1,100 from Germany.

Week ending Saturday 22nd ult.—E. H. Rolfe, £1,020 from Holland; J. Stutchbury and Sons, £10 from Germany; T. Naumann, £185 from Germany.

Week ending Saturday 29th ult.—Horne and Crampton, £2,170 from United States; Milwall Dock Co., £200 from United States,



Mr. C. R. RICHARDS, of Bell Busk, has been awarded a gold medal at the International Exhibition, New Zealand, for sewing silks.

WILLIAM CHEADLE, local manager for Messrs. Bradbury and Co., sewing machine manufacturers, Oldham, has been sentenced to four months' hard labour for embezzling £100 belonging to his employers.

MESSRS. MARSHALL AND CO., linen thread manufacturers, of Leeds, have been awarded a gold medal for their exhibit of linen thread at the International Exhibition, New Zealand.

On Saturday the 8th ult., the workpeople in the employ of Messrs. S. Allecock and Co., needle manufacturers, of Redditch, numbering about 400, were conveyed by special train to Liverpool. By the courtesy of the officer in charge the party were allowed to inspect the steamer "Germanie," belonging to the White Star Company's line, and they afterwards looked over the docks and inspected other places of interest. Refreshments were provided at the cost of the firm.

MESSRS. KERR AND CO., of Paisley, have been awarded a gold medal at the New Zealand International Exhibition for their exhibit of cotton threads.

TRICYCLES AND QUADRICYCLES.

Letters patent have been obtained of Mr. Nils Knut Husberg, of Stockholm, and of 64, Coweross-street, London, for an invention of improvements in tricycles and quadricycles.

The principal objects of this invention, which relates to improvements in tricycles and quadricycles (both hereinafter merely called velocipedes) are to reduce the power required for the propulsion of the velocipede and to make it compressible both in length and width.

Rotary motion has in tricycles sometimes been imparted to their driving wheels by means of pedal levers, each one pivoted at one extremity to the frame, and at the other connected by means of a strap or chain or other flexible piece to a pulley or segment mounted upon and by means of clutches or ratchets and pawls (the combination of which with pulleys or segments will hereinafter be named clutch pulleys) connected with the axle of the driving wheel, the pedal being attached to the lever somewhere between the latter's two extremities.

For his improved velocipedes he reverses the above described position of the pedal pin and the flexible connecting piece (hereinafter called chain), attaching thus the latter nearer to the fulcrum of the lever than is the pedal pin. By such an arrangement he is enabled to reduce considerably the diameter of the clutch pulley, and this causes a corresponding reduction in the work that is inevitably lost at each return movement of pulley. The chain may be attached to the lever upon, above, or below a straight line drawn between the pedal pin and the fulcrum of the lever, and in such a manner that the rider can easily alter its position whenever change of leverage is required. The above mentioned clutch

pulley, instead of being mounted upon the axle of the driving wheel may be mounted upon some other axle from which latter the power is transmitted to the driving wheel by suitable gearing.

When levers are used for the propulsion of the velocipede and levers are connected to the axle upon which they are mounted, or to some other axle, by means of ratchets and pawls or clutches, and besides supported by springs effecting the return movement of the levers, he applies a strap or its equivalent just over or near to the pedal pin either to the pedal, or to the lever, or to the pedal pin itself, so that the rider can with his foot effect the return movement of the pedal lever. The spring or springs used for the same purpose may thus be made very pliant, which also causes a reduction of the power required for the propulsion of the velocipede.

The length and width of a velocipede constructed with two steering front wheels he reduces whenever required, as, for instance, when the velocipede has to be passed through a narrow entry, by pivoting each one of the steering wheels to a separate arm or piece the whole being so constructed and the aforesaid arms so connected to the frame that each one of the steering wheels with its corresponding supporting arm can when necessary be moved nearer to the centre-line of the vehicle, and at the same time even backwards.

Each one of the guide wheels when mounted upon stud axles he so constructs that the hub flange of the free end of the axle comes farther from the centre plane of the wheel than does the hub flange at the fixed end of the stud-axle, the strain upon which by the said construction of the wheel will be reduced.

The bar to which the stud axle is secured is connected to its wheel in the usual manner for steering purposes, but it will be easier to guide the velocipede if the centre line of the pivoted part of the bar is perpendicular, not going however, as usual when prolonged through the centre of the axis of the guide wheel, but somewhat nearer towards the seat or saddle.

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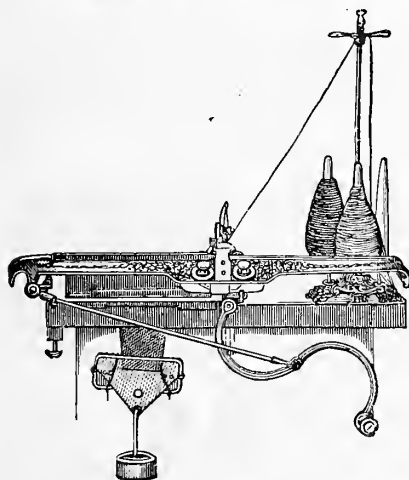


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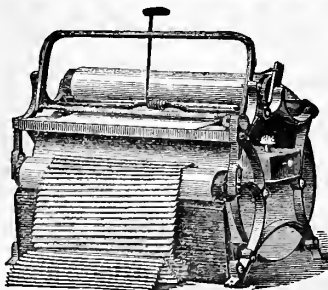
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This Kilting Machine was patented in America, June 29, 1880, but has only recently been introduced here. It is a very effective machine, and will work from 50 to 80 plaits per minute, all size plaits up to $1\frac{1}{4}$ inch and any width to 12 inches. The speciality of



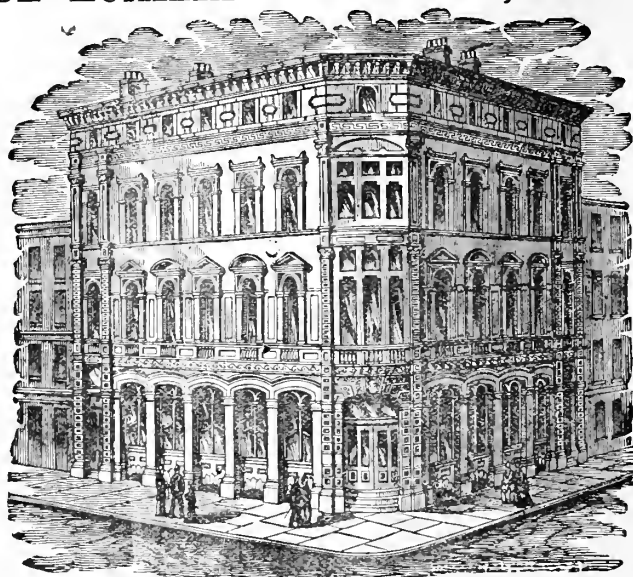
this plaiter is that it is heated by oil lamps, and is available in houses where there is no gas supply. For the village dressmaker we know it will be just the thing desired. It is very simple, and easy to manage.

A SAMPLE MACHINE sent on receipt of remittance, 25s., payable to **T. BROOKS, 20, Wormwood Street, London, E.C.**

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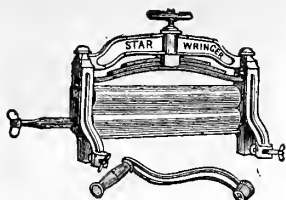
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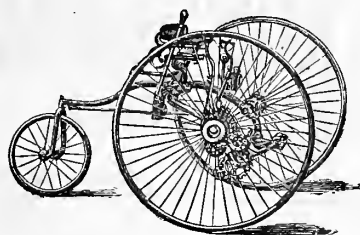
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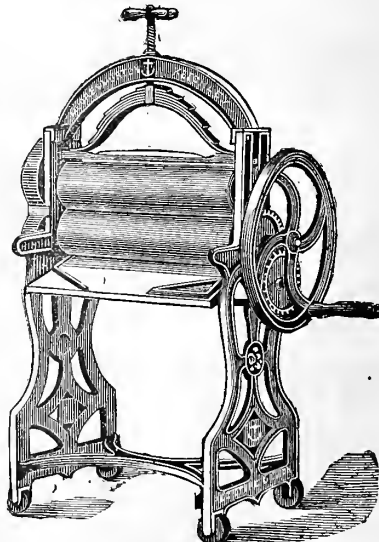
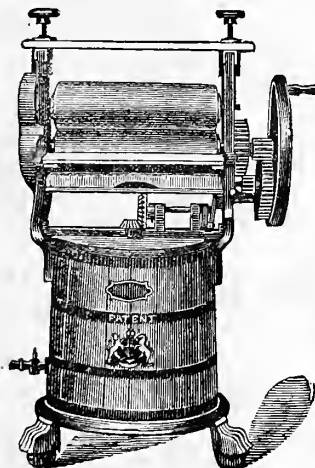
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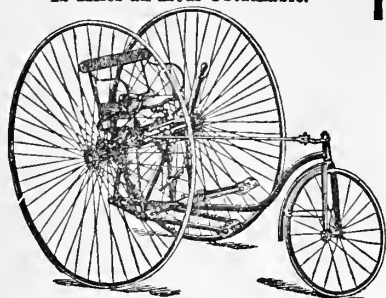
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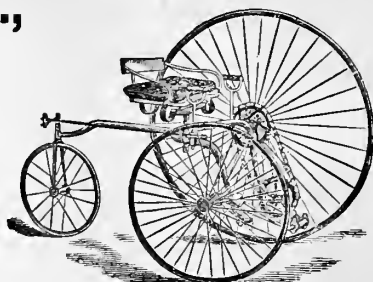
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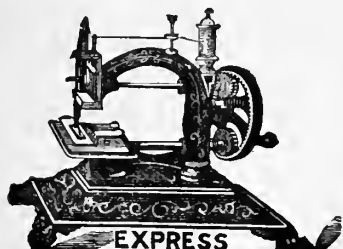
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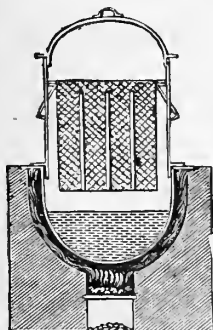
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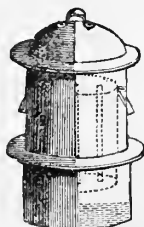
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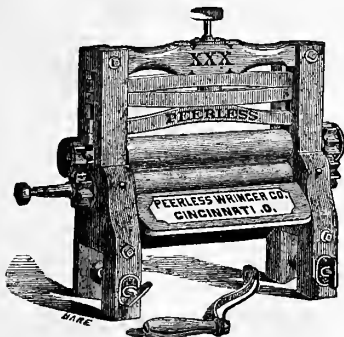
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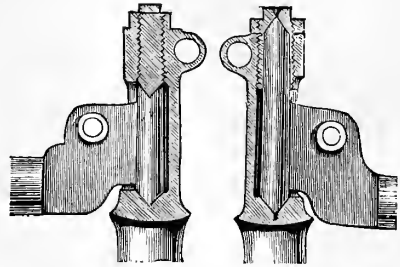
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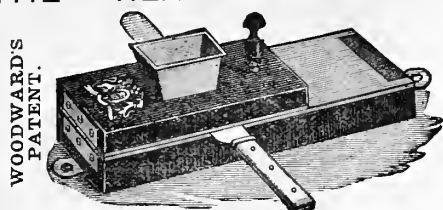
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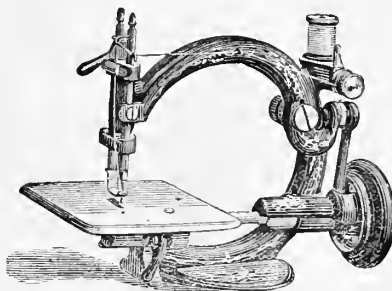
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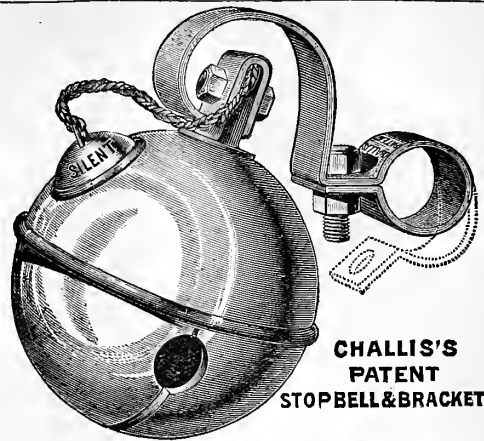
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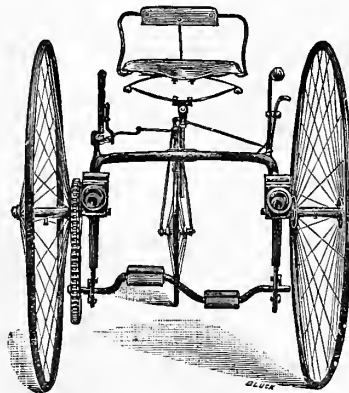
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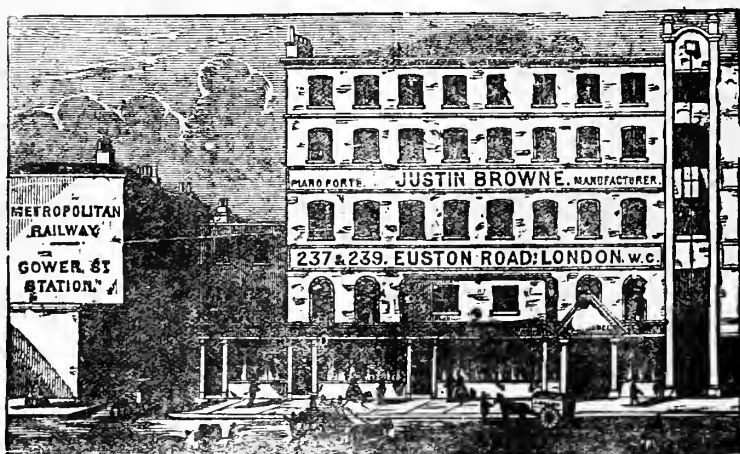
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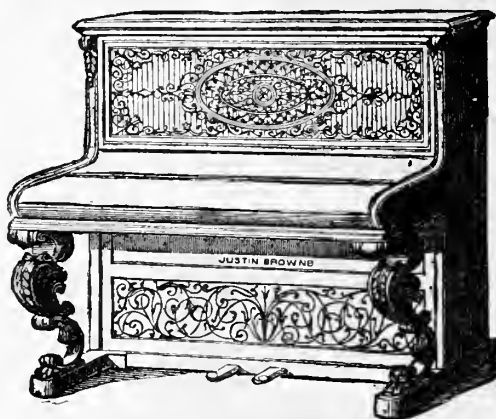
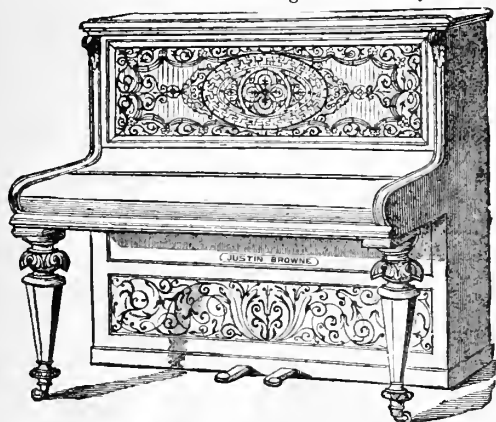
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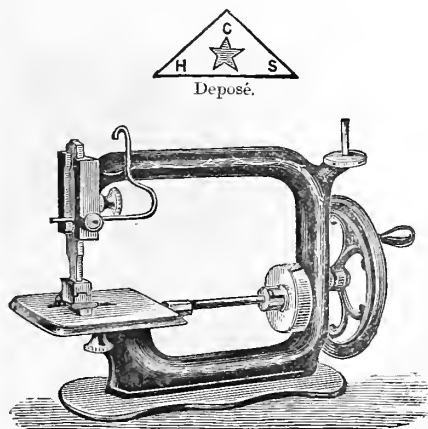
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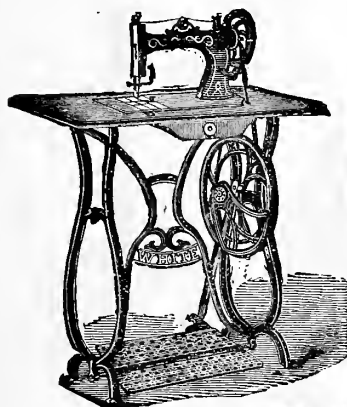
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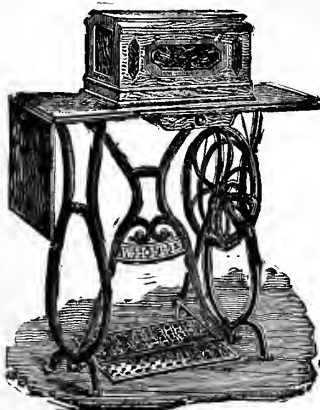
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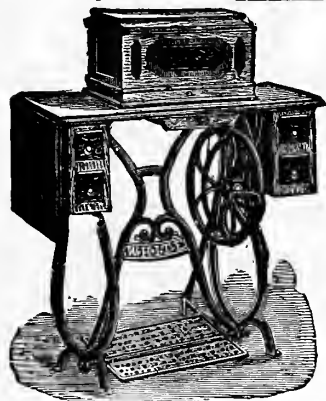
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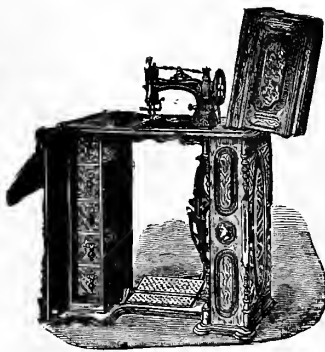
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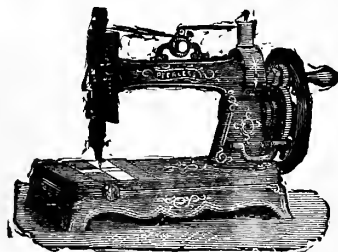
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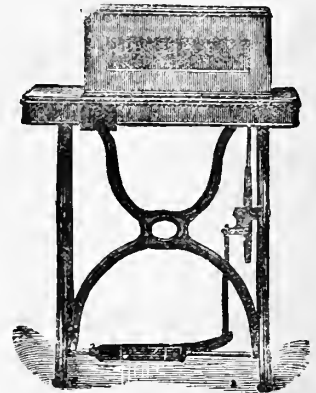
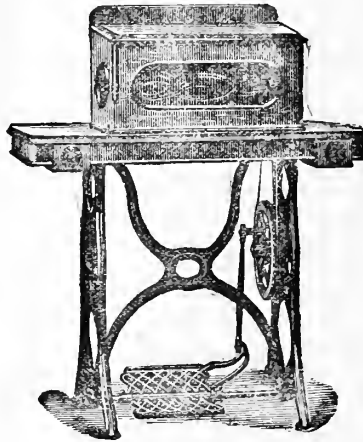
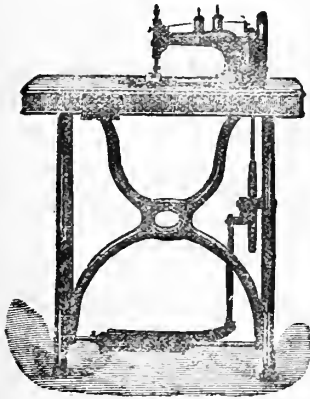
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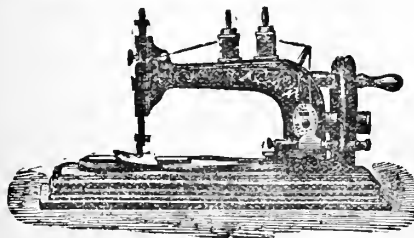
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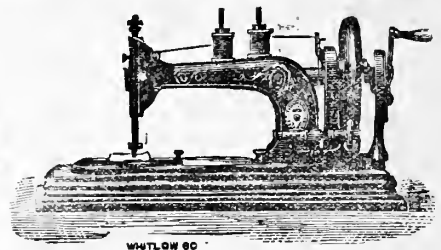
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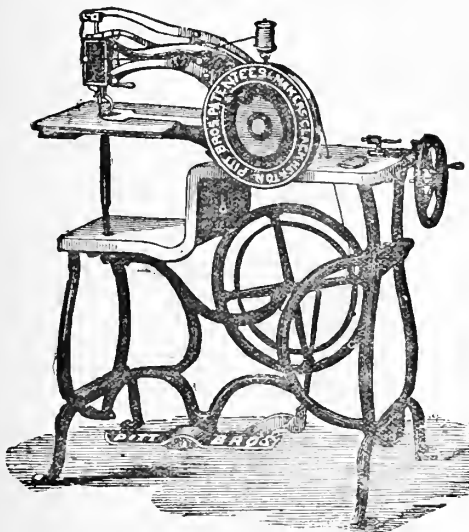
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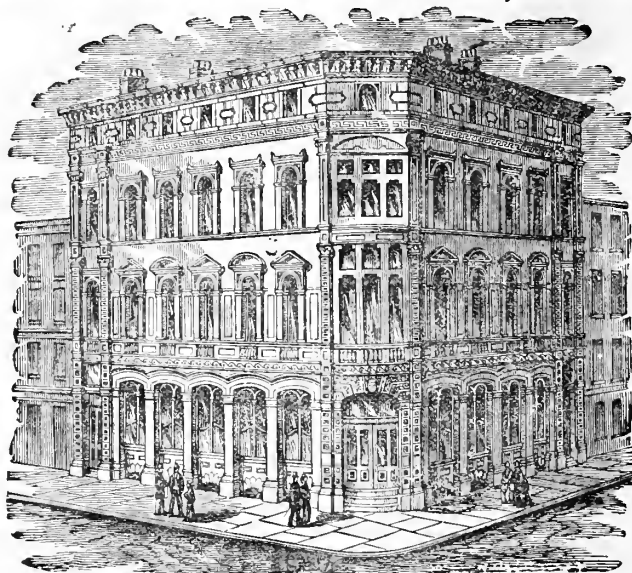
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With their various associated Agencies, form together a complete organisation for the protection of Bankers, Merchants, Manufacturers, Traders, and others, against risk and fraud in their various commercial transactions.

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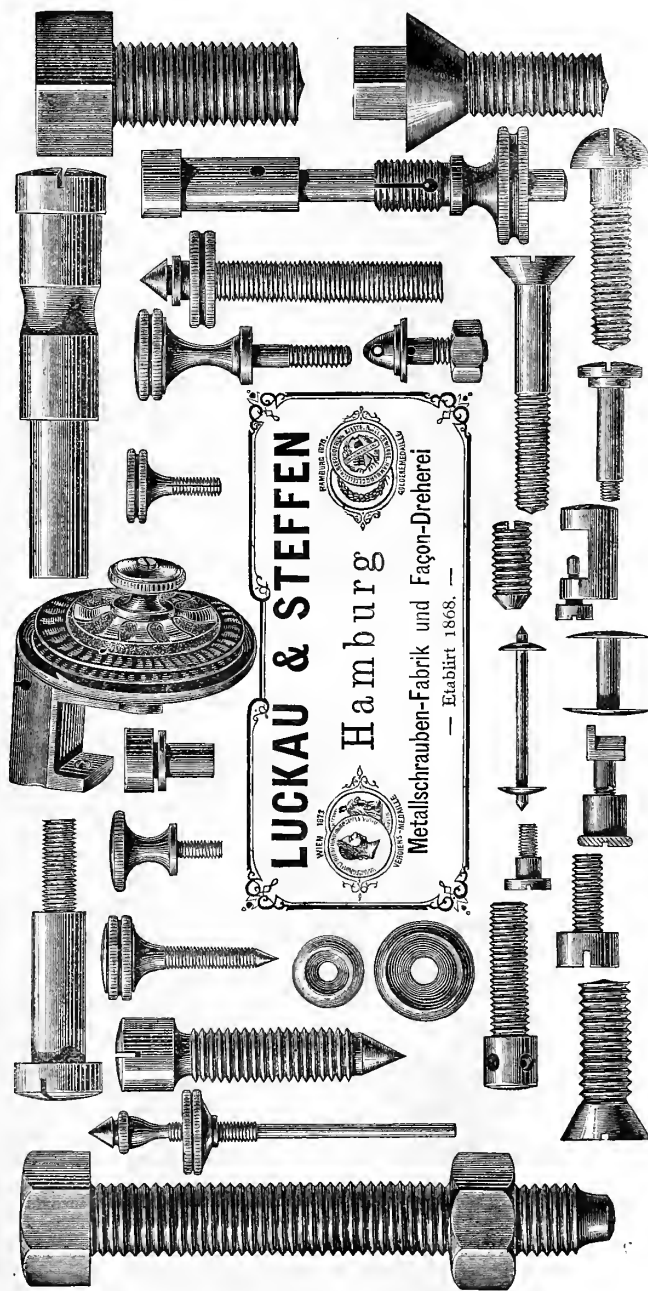
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PRIZE MEDALS, VIENNA, 1873; HAMBURG, 1876.

Manufacturers of Metal Screws, &c.

ESTABLISHED 1868.

THE LIGHT RUNNING STANDARD SEWING MACHINE

A MODEL OF SIMPLICITY AND BEAUTY
NEVER GETS OUT OF ORDER
AGENTS WANTED

LATEST IMPROVED
MOST POPULAR
BEST

PATTERN OF PERFECTION
MAKES NO NOISE
& DOES NOT FATIGUE THE OPERATOR

RENNICK, KEMSLEY & CO.,
4, FINSBURY CIRCUS, LONDON, E.C.

ELIAS HOWE SEWING MACHINES,

ADAPTED FOR EVERY DESCRIPTION OF WORK.

Families will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several plies of heavy Cloth.

Dressmakers who once use THE HOWE give it the preference over all others for beauty and durability of Stitch.

PURCHASE NO MACHINES

Complete with all Appliances from £4 4s.



The Howe Machine Co. are also manufacturers of Bicycles and Tricycles.

THE HOWE BICYCLE, Price from £15 15s..

Possesses all the latest improvements, and will be found unrivalled for quality of workmanship and material. See Special Lists.

THE HOWE TRICYCLE, Price £16 16s.

A Machine designed on the Best Mechanical Principles.

Manufacturers of Boots and Clothing, who carry on a high-class trade, ONLY USE THE HOWE MACHINE.

A trial is all that is necessary to convince those in want of a Sewing Machine that THE HOWE is entitled to pre-eminence over all others.

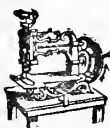
WITHOUT THIS TRADE MARK.

Price Lists and Samples of Work post free.



THE HOWE MACHINE COMPANY (Limited), 46 & 48 Queen Victoria Street, London.
Factory: Avenue Street, Bridgeton, Glasgow.

RAYMOND'S CANADIAN SEWING MACHINES.

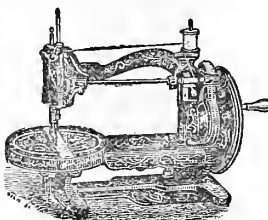


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c. — (See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work. Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder

Testimonials, Prospectuses, Samples of Work, and all particulars free on application

ALSO

Raymond's No. 1 and 2 TREADLE MACHINES for Families, Dressmakers, and Manufacturers

AGENTS WANTED.

CHIEF DEPÔT FOR EUROPE AND EXPORT:

11, MOUNT PLEASANT, LIVERPOOL.
P. FRANK, AGENT. ESTABLISHED 1863

MOORE, MURTON & VARLEY,

Manufacturers of the

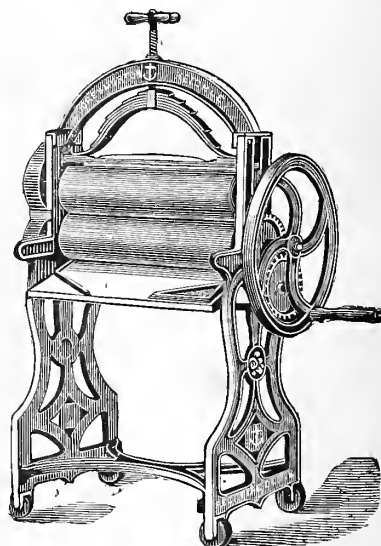
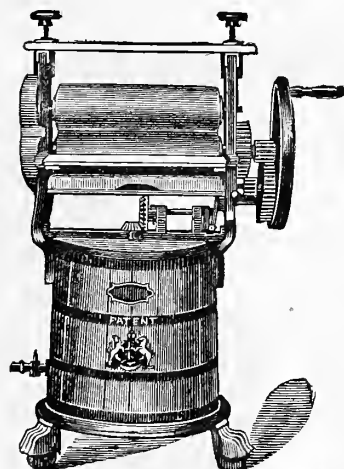
**ROYAL, ANCHOR & PEOPLES
WASHERS,**

And every description of

Wringing & Mangling Machines.

Price List and Illustrated Catalogue
free on application.

TRADE ONLY SUPPLIED.



BRITANNIA IRON WORKS, KEIGHLEY

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VARLEY & WOLFENDEN

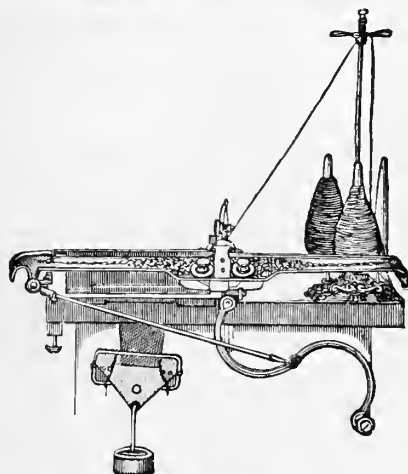
KEIGHLEY, ENGLAND.

SOLE MANUFACTURERS OF THE

CYCLOPS CELEBRATED LOCK STITCH SEWING MACHINE, FOR DOMESTIC AND MANUFACTURING PURPOSES, TO WORK EITHER BY HAND OR FOOT.

These Machines are made from the Best Materials, and cannot be surpassed for excellency of finish and durability.

SHIPPING ORDERS EXECUTED ON THE SHORTEST NOTICE



THE DRESDEN KNITTING MACHINE

Knits Stockings, Rib or Plain shaped down the back, as by hand.

From £11 5s. 0d. Instructions Free.

Liberal Discount to Shippers and Agents.

These Machines are made in a great variety of Widths and Gauges, with New Patented Appliances for the Manufacture of all descriptions of Knitted goods, as Stockings, Half Hose, Mitts, Mittens, Scarves, &c., on the smaller Machines.

Also Under Vests, Pants, Jerseys, Cardigan Jackets, Skirts, Shawls, Wraps, Quilts, &c., &c., in a great variety of Styles and Patterns on the larger Machines.

Price Lists and Catalogue on receipt of Stamped Envelope.

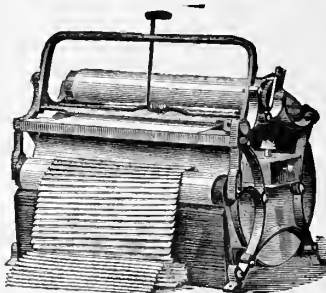
WHOLESALE AGENT FOR THE UNITED KINGDOM—

JAMES FOSTER,
41, FRIARGATE, PRESTON, LANCASHIRE

Also Importer of The "F.F." Hartford, and other Machines made by the Weed Sewing Machine Co.

THE KENDALL PLAITING MACHINE.

This Kilting Machine was patented in America, June 29, 1880, but has only recently been introduced here. It is a very effective machine, and will work from 50 to 80 plaits per minute, all size plaits up to $1\frac{1}{4}$ inch and any width to 12 inches. The speciality of



this plaiter is that it is heated by oil lamps, and is available in houses where there is no gas supply. For the village dressmaker we know it will be just the thing desired. It is very simple, and easy to manage.

A SAMPLE MACHINE sent on receipt of remittance, 25s., payable to
T. BROOKS, 20, Wormwood Street, London, E.C.



PATRONIZED BY HER MAJESTY THE QUEEN.

ALWAYS IN STOCK.

Saddles, Saddle Bags,
Bells, Whistles,
Horn Handles, Oil Cans,
Lubricators,
Oil in Bottles, &c.

BOWN'S PATENT "ÆOLUS"

ALWAYS IN STOCK

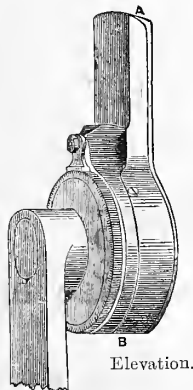
Heads, Finished and
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Crauks, Pedals, Hubbs,
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UNIVERSALLY ADJUSTABLE BALL BEARINGS,

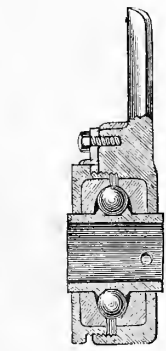
For Front Wheels, Back Wheels, and Pedals of Bicycles, Tricycles, and other Carriages.

Are dust or dirt proof and longer distances can be travelled without lubrication than with any other Bearings in use. The continued and increasing demand, and the numerous commendations voluntarily accorded by both Amateur and Professional Bicycle Riders of eminence fully establish the fact of their vast superiority over all others.

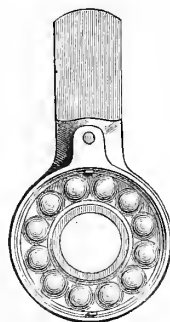
Front Wheel Bearings.



Elevation.

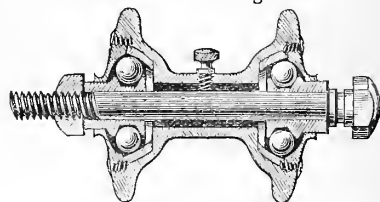


Section
through A B of Elevation.

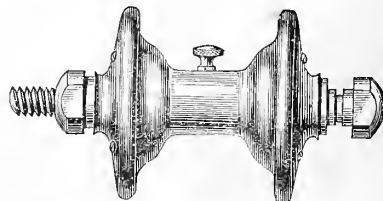


Front view with
Cap removed.

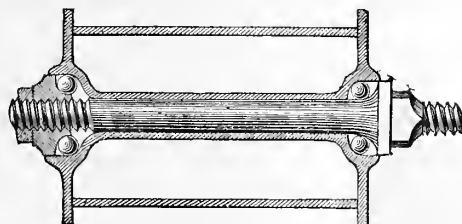
Back Wheel Bearings.



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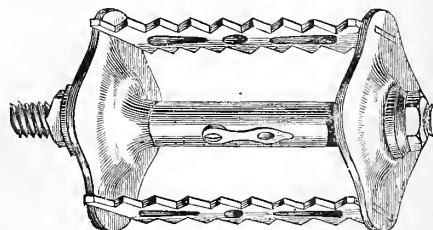


Elevation.



Section.

PEDALS.



Elevation.

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WILLIAM BOWN, 308, SUMMER LANE, BIRMINGHAM,

ALSO
Manufacturer of General Bicycle Fittings, Materials, Extras, and Stampings in Iron
and Steel for same.

*The Only Gold Medal for Boot and Shoe Machinery Awarded at the
Paris Exposition was for the Machinery of*

THE BLAKE & GOODYEAR BOOT AND SHOE MACHINERY COMPANY, LIMITED.



A GREAT VARIETY OF MACHINERY

FOR



HEEL NAILING AND TRIMMING,
EDGE TRIMMING AND SETTING,
HEEL BLOCKING, RAND AND WELT CUTTING,
RAND TURNING,
SELF-FEEDING EYELET MACHINES,
Self-Feeding Punches, Double and Single Fitting Machines
FOR PUTTING IN ELASTICS,
STRAIGHT AND CIRCULAR BEADERS,
And a great variety of other Machinery and Patented Tools.

*MANY OF OUR MACHINES MAY BE SEEN IN MOTION,
AT NEWPORT PLACE, LEICESTER.*

Raw Hide Mallets & Hammers for Shoe Manufacturers & Machinists,
ROLLERS, PRESSES, KNIVES. AND IRON OR WOOD LASTS.

1, WORSHIP STREET, LONDON, E.C.

HADLEY BROTHERS,

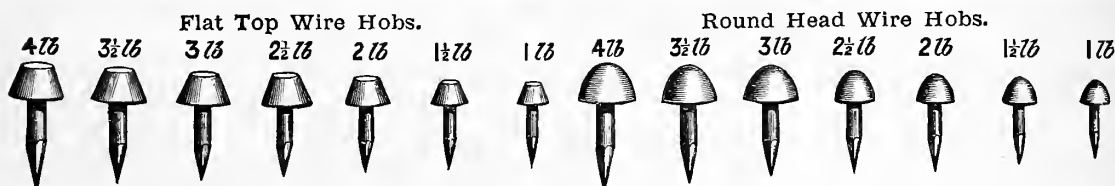
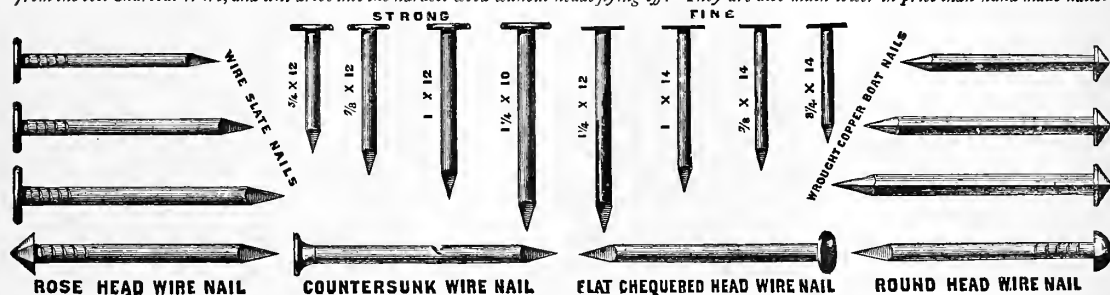
NAIL MANUFACTURERS,

MITRE NAIL WORKS, EYRE STREET, BIRMINGHAM.

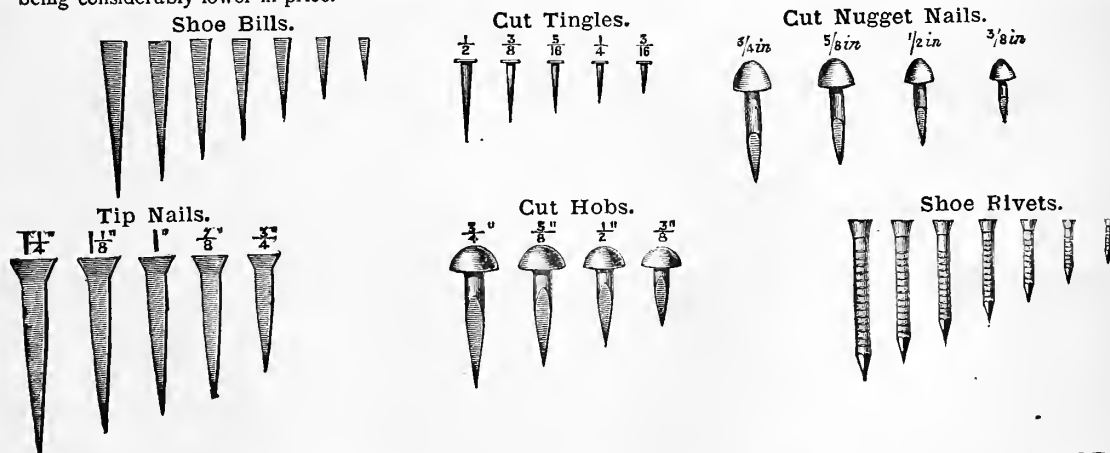
EVERY DESCRIPTION OF CUT NAILS AND WIRE NAILS.

Blued Wire Clout.

These Wire Clout Nails have all the good qualities of Forged (or hand-made) Nails, and are much superior in finish and regularity. They are made from the best Charcoal Wire, and will drive into the hardest wood without heads flying off. They are also much lower in price than hand-made nails.



These Wire Hobbs are more uniform in size, weight, and quality, than any Wrought or Hand-made Nails—they have also been proved to retain their hold in boots, much better and last twice as long as the Wrought Hobbs, besides being considerably lower in price.



Buyers not ordering direct from the Manufactory should be particular in stating "MITRE NAILS," &c., HADLEY BROTHERS' make being known by that name.

Price Lists on application, enclosing Trade Card. **WHOLESALE and EXPORT ONLY.**

THE "WANZER"

LOCK-STITCH, HAND OR FOOT, SEWING MACHINES.

First Prize Medals, Honours & Awards, wherever Exhibited.



WANZER "A"

IS THE

Great Mechanical Success of the Age.

It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

THE NEW "LITTLE WANZER."—Entirely reconstructed and improved. Nickel-plated, Loose Wheel, New Patent Shuttle, Take-up Lever and Spooler. £4 4s.

WANZER "A." Simplicity Itself.—The most powerful yet light running Hand Machine, straight race. £4 4s.

WANZER "C" Light Foot Family Machine, entirely New, with every improvement up to 1879. £6 0s.

WANZER "F" Family Machine, with Reversible Feed and Stitch Lever. £7 10s.

WANZER "E" Wheel Feed Machine, for heavy work of all kinds £8 8s.

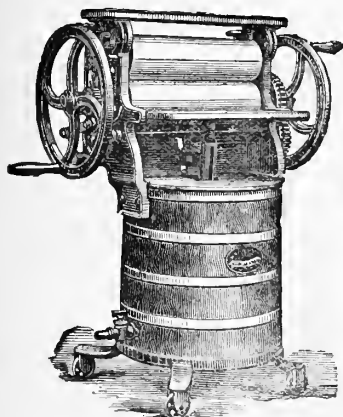
WANZER PLAITING, KILTING AND BASTING MACHINES,

Over 200 varieties of perfect Plaiting or Kilting, from 30s. complete. *The only Machine Kilting and Basting at one operation.*

The Wanzer Sewing Machine Company,
LIMITED,

Chief Office—4, GREAT PORTLAND ST.,
OXFORD CIRCUS, LONDON, W.

NEW HIGH-CLASS WASHING MACHINE.



Showing PLUNGER, which works up and down in tub about 60 times per minute, atmospherically forcing the hot water and soap through the clothes, thus of only loosing load but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate articles.

The "PARAGON" Washer, Wringer and Mangle (KENWORTHY'S Patent) is a compact powerful, and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize Silver Medal, General Competition, and also an extra First Prize, Silver Medal for Improvements; Worsley Agricultural Show, the Society's Medal; Altrincham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society Medal; also gained Prizes and Honours at the Northumberland, Halifax, Tormorden, and Preston Agricultural Shows.

Patentees and Sole Manufacturers of the Celebrated and World-Renowned PATENT "CANADIAN WASHER," which is the most Simple, most Effective, and the most Economical Washer ever offered to the Public. This is on the same principle as the "Paragon Washer" Plunger, but is made to use by hand in any ordinary maiden tub, washtub, or bowl. Over 30,000 have been sold in a short time.

AGENTS WANTED in Districts not yet Represented.

E. N. KENWORTHY & CO., WASHING MACHINISTS, **OLDHAM, LANCASHIRE.**
ALPHA WORKS,

London Agent, Mr. HARPER TWELVETREES, Finsbury Pavement, E.C.

Mr. JORDAN EVANS, 92, Cawder Street, Prinee's Road, Liverpool, says:—
"I beg to inform you that the 'PARAGON' Washing, Wringer, and Mangling Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in less than two hours."

THE DOMESTIC APPLIANCES EXHIBITION.

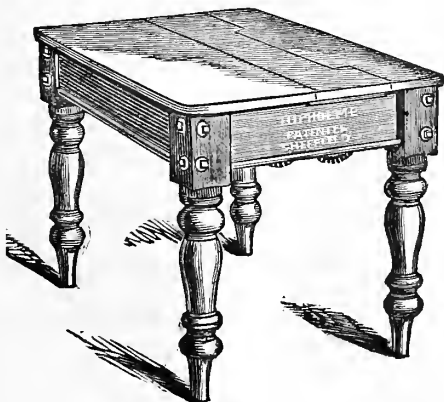
SOME TIME ago we expressed an opinion that at the above exhibition some surprising novelties would be exhibited, not only for aiding domestic labour, but for economising the many articles consumed in the house. In these go-ahead days, a year is quite sufficient time for the invention of numerous wonderful improvements, and the discovery of many altogether new-systems of mechanism, and therefore it is not surprising that at the Agricultural Hall are exhibited a number of domestic appliances which now, figuratively speaking, make their first bow before the public, and only ask a fair trial to become appreciated. Year by year domestic inventions of every kind are increasing; and no matter whether we desire to clean knives, make stockings, peel potatoes, black shoes, make butter, wash clothes, stitch dress, shell peas, or even make our bread, all we have to do is to turn a handle. We need not even mind the baby now; we can put it in a domestic appliance and it will mind itself; and if we have bad teeth, and consequently impaired digestion, we need not trouble to masticate our food, but can put it in a machine, and, of course, turn a handle. This is a regular handle turning age, and we may expect soon to wash and dress ourselves, make our beds, clean the windows, scrub the floors, lay the table, and do every household operation through the same medium. We should then only require a handle to appease a stormy wife, quiet a screaming baby, and pay the tax collector, and our domestic happiness would have reached perfection.

The Agricultural Hall has been thronged with visitors at night, and the last few evenings it has presented a very crowded appearance. There are altogether upwards of two hundred exhibits, which is an increase on last year. We shall first notice:—

WASHING, WRINGING & MANGLING MACHINERY.

MR. W. BOWDEN, Soho Bazaar, Oxford-street, W.

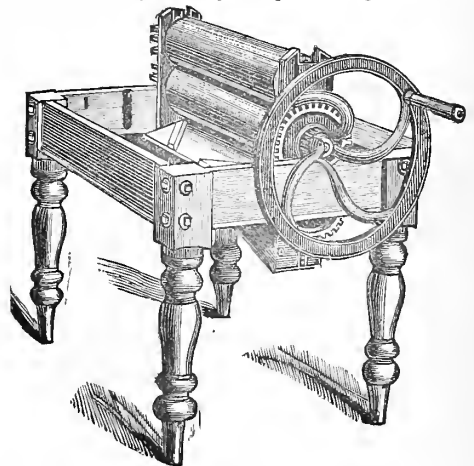
At this stand we notice something new in wringing machines, which will be welcomed by those householders whose space is



When used as Table.

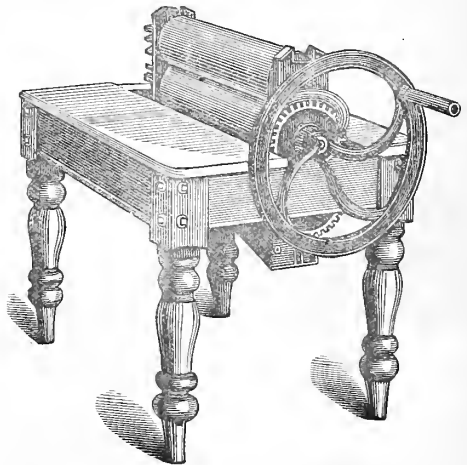
limited, it is a mangle, a wringer, and a kitchen table combined and the three illustrations we give will at once make clear to the

reader what we mean. These machines are as large, as strong and as serviceable as any ordinary wringer or mangle, and when not



When used as Wringer.

in use the fly-wheel can be quickly taken off, and the whole folds down under the table top out of sight, the operation not taking more



When used as Mangle.

than a minute. The idea is a good one, the wonder is that it has never been thought of before.

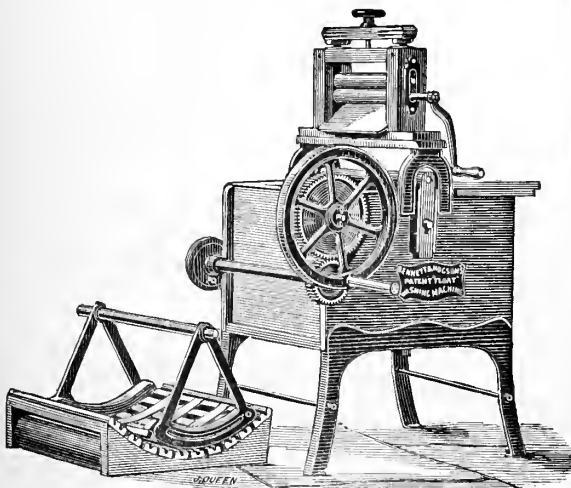
MESSRS. HOLMES, PEARSON AND MIDGLEY, Keighley.

Several specimens of the well-known "Royal Washer," the "Cyprus" wringer, the "Excelsior" wringer and other laundry machines were shown by this well-known Keighley firm. An inspection will show that they are carefully made and their simplicity and effectiveness is beyond all question. This firm have recently opened a London depot, at 5, New-street, Bishopsgate, E.C., where a large stock of their manufactures are warehoused. This Depot

being in the heart of the City must be very handy for shippers to run in and see what they purchase.

MESSRS. CHATTERTON & BENNETT, 66, Strangeways,
Manchester.

What would our grandmothers have said if they had seen Bennett's Float Washer? We all know how they looked with prejudiced eyes on every washing machine invented, which they described as "new fangled notions," all very well for straight forward work perhaps, but when you come to stockings and collars, where are you! There was a certain amount of truth in what they said—and hitherto there has been no machine so perfect in its action that it will do everything that can be done by hand, and for some purposes we have had to acknowledge that a little hand rubbing is best after all. But in this new machine, shown for the first time at this exhibition, the peculiar friction given by the knuckles is so closely imitated, that we think our respected grand parent would have had to acknowledge that there is something in it after all.



The machine is so constructed that the clothes to be washed are placed on a floating bottom, and which by having two hollow cylinders attached to it, is sufficiently buoyant to press the clothes upwards against the rubbing portion of the machine, which as will be seen by our illustration, consists of a series of rounded strips of wood. These when moved backwards and forwards—the result of turning the handle—imitate exactly the action of the knuckles of a vigorous washer woman, only, of course, acting at the same moment on a surface of clothes a hundred times as large. The articles that require washing can be rubbed with little or great power, the force depending on the amount of water placed in the machine. It seems to us a most simple yet sensible invention and we have great pleasure in calling the attention of the trade to it.

SEWING, KNITTING, & KILTING MACHINERY.

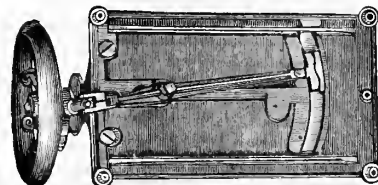
THE VERTICAL FEED SEWING MACHINE, 52, Queen
Victoria-street, E.C.

Perhaps the finest exhibit of sewing machines is that made by this company, who have a large and tastefully arranged stand in the centre of the building. The Vertical Feed Machine differs from all others in its peculiar feed motion. This part is undoubtedly one of the most important in a machine, and a deviation therein from the usual course alters the entire character, which is especially the case in this machine. To distinguish the

Feed-motion from all others it is called the Vertical Feed, meaning that the work is fed from the upper part of the machine instead of from below in the old fashioned way. It is worked in the following manner:—

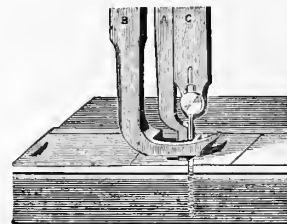
The Feed-motion A and the Pressure foot C receive their motion by means of a lever alternately raised and lowered, and in such a way that the one is always lifted off the work just at the moment when the other is lowered.

In addition to its perpendicular motion the Feed A possesses also a horizontal movement, in consequence of which at every



stitch the work is pushed forward, just at the moment when the needle has pierced the goods and is at its lowest position. From the foregoing it follows that the advance of the material takes place whilst the pressure-foot is at its highest point, and the latter for that very reason causes no obstruction as is the case in all machines in which the work is constantly held down by the pressure-foot at the moment of being moved forward. As stated above the work is moved forward just at the moment when the stitch is being made; the needle stands at its lowest position at the moment when the material is moved forward, and the needle-bar is so connected with the Feed-motion that they both move together, and keep them from fulling, or being separate, whilst being carried forward.

The merits of this arrangement are therefore (1st.) That the material, the raising of the pressure-foot, encounters no obstacles. (2ndly.) That the needle penetrates the material to be sewn at the moment when it is moved forward, therefore it follows that one piece cannot possibly move forward before the other. It sews with



ease over any seams in the work and from the thinnest to the thickest of materials without changing either stitch or tension. The construction of this machine allows the operator to make use of a large number of simple and useful attachments, by means of which an infinite variety of most beautiful work can be executed with astonishing rapidity and precision.

This machine was awarded the only Gold Medals in a competition with all the other leading machines at the Sidney and Melbourne Exhibitions.

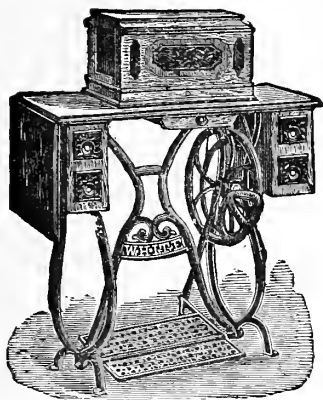
MESSRS. RENNICK, KEMSLEY AND CO., Finsbury-square,
E.C.

In addition to their "Light Running" Standard sewing machines, too well-known to need description, the "Home Companion," and the "Home Shuttle" all excellent machines, they show a Button Hole attachment to the Light Running Standard Sewing machine, for family use, which can be instantly attached to the sewing machine, adjustable to all kinds of goods. It is entirely automatic, requiring no skill in the operator and working

both side of the button hole. A great novelty to be seen here is the "Universal" knitting machine, which will produce every kind of knitting that can be done either by hand or loom knitting, in all upwards of twenty different kinds of stitches and patterns; only one sort of needle being required. This firm also exhibit the National Button Hole Machine intended for the use of manufacturers of all garments in which straight button holes are required.

THE WHITE SEWING MACHINE COMPANY, 19, Queen Victoria-street, E.C.

This Company occupies a very prominent position, and make a very large display of their excellent machines. The "White" is a



new comer to England comparatively speaking, but in a short space of time it has made much progress and has a large sale.

The "Peerless" which is a hand shuttle sewing machine made by the White Company, is well made and has plenty of room under the arm. We hear that the manufactures of this Company are experiencing a good sale on the Continent.

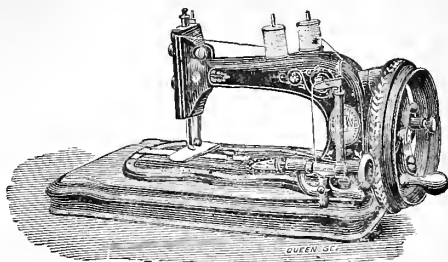
MESSRS. VARLEY AND WOLFENDEN, Keighley.

At a neat well arranged stand are exhibited the "Cyclops" lock stitch sewing machine suitable for either domestic or manufactur-

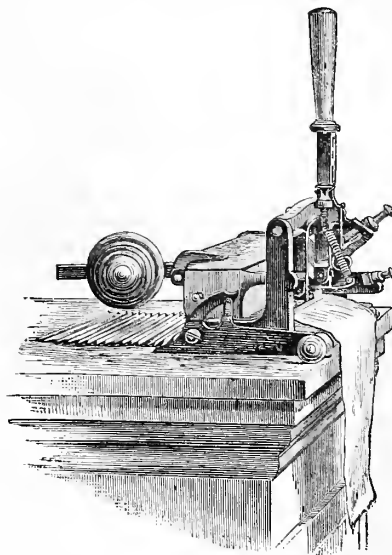


ing purposes. These machines, like the whole of their manufactures, are carefully made and of good materials.

We give illustrations of the "Cyclops" hand and treadle machines, and also of their kilting machine, which is a domestic



appliance they make very largely. Among the exhibits at this stand, which by-the-bye, though neat, is one of the prettiest of the



show, we noticed two 'excellently made bicycles, light in construction, yet strongly made.

MESSRS. BIERNATZKI AND CO., 10, Bull and Mouth-street, St. Martin's-le-grand, E.C.

The genuine "Lamb" knitting machine, which knits all kinds of hosiery of all sizes, in perfect shape without seams, is the chief feature of this stand. The knitting, which was splendidly done, was exactly like hand work. The machine, we are informed—which by the bye is strong enough to last a life time, will not only knit socks and stockings, but a variety of fancy goods, and articles as small as a doll's sock. The "Lamb," which is, of course, worked by hand, appears to be made of most excellent material, and in the highest style of workmanship.

MESSRS. S. DAVIS AND CO., 15, Blackman-street, S.E.

A large collection of sewing machines, washing machines, wringing machines, and other domestic novelties, is shown by Messrs. Davis and Co. This firm do a very large trade in letting out goods on hire, and hence their exhibits, which are tastefully arranged, are surmounted with a large "26" denoting the weekly payment.

THE ELECTRO-MOTOR COMPANY OF PHILADELPHIA, 2, Scott's Yard, Bush Lane, E.C.

This firm exhibits Griseom's Electro-Motor and Automatic Battery for driving Sewing Machines and general small machinery.

The Motor consists of two semicircular electro-magnets, placed together so as to form a ring. The poles of these magnets project inward and together with the wire coils with which they are surrounded, they form a cylindrical tube or sheath, within which revolves a Siemen's armature. The poles of the magnets extend sideways a sufficient distance to form supports for the brackets which carry the bearings of the armatures and the brushes of the commutator. In order to make the wear of the journals as slight as possible at the high speed of the armature—sometimes as many as eight thousand revolutions per minute—the length of the bearings is made four times the diameter of the shaft. The direction of wear is away from the point of nearest approach of the armature to the magnets, so that the poles can never come in contact. This point has heretofore been a source of annoyance in motors of this description. The friction wheels of the brushes are in pairs, and the shape of the commutator is such that one wheel always touches one half of the commutator before its companion leaves the other—thus insuring a constant and steady current.

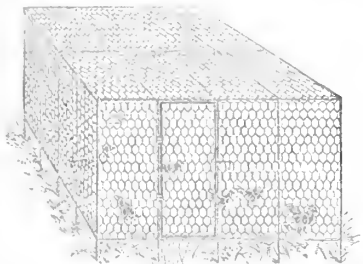
Accompanying the electro-motor, as prepared for the market, is a battery of six one-gallon cells, with zines and carbons, enclosed in a tight box. The manufacturers estimate that this battery, with one filling, will furnish power sufficient to drive a sewing machine several months as ordinarily used in private families. The battery is so arranged that there is no waste of material when the motor is not in use, the zines and carbons being automatically lifted from the fluid. The speed of the motor is regulated by the depth to which the plates are dipped in the solution. The apparatus is very complete; and were it not for the dislike of women to have anything to do with mysteries of a chemical or electric nature, it would doubtless soon win its way to popular use. But the familiarity will remove this objection—more especially because in the battery under consideration there is no necessity to ever open the box which contains it, as it is entirely automatic in its operations.

We have carefully examined the motor, and find it perfect in its action, sewing with ease the thickest cloth or leather as well as the lightest material. We have great pleasure in recommending it to the trade, and we are sure there is a large sale for it in the future.

HORTICULTURAL AND GARDENING APPLIANCES.

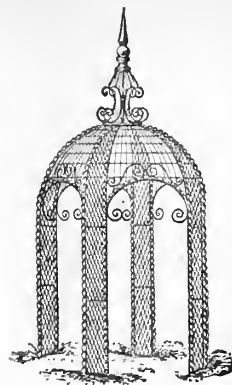
MESSRS. J. J. THOMAS AND CO., 87, Queen Victoria-street, E.C.

A large display of garden appliances, useful and ornamental, is made by this firm. There are wire arches, cattle hurdles, poultry



troughs, garden tools, syringes, flower stands, rose temples and many other articles chiefly made of wirework or zinc. We noticed most especially a Sectional Flower Stand in four separate parts fitting closely together and forming a very unique centre piece which when separated each part can be used to fit into the corners

of the conservatory, or two parts placed together will form a semi-circle. This stand was awarded a special certificate of merit at the



Royal Horticultural Society's Flower Show, South Kensington, May 23rd, 1882.

Mr. B. W. WARHURST, 33, Highgate-road, N.W.

There are many kinds of domestic novelties exhibited by this manufacturer, both for the garden and the house. He makes some capital greenhouses, the roofs of which are glazed with imperishable lead bars requiring no putty. We noticed Clark's Patent Syphon Stove, which is a very valuable addition to the appliances for economising coal and reducing smoke. This stove may be used in a conservatory any length of time, the flame that gives light and heat being in the very midst of the most delicate plants, without any fear of the slightest injury to leaf or flower.

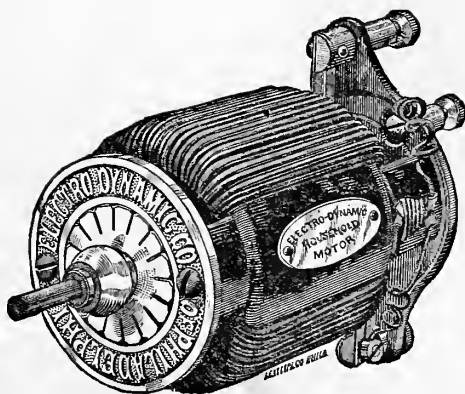
This contrivance appears to afford a scientific basis for the heating and lighting of apartments by gas without any of the deleterious consequences we have hitherto been compelled to submit to. The flame is produced in a commonplace way, but the heated air and its poisonous constituents are made to circulate through chambers in which the sulphur compounds, and in part the carbon compounds, are condensed with the water that the flame produces, and the water, charged with the obnoxious substances, passes out at the base of the machine into a tray provided for its reception; the consequence being that a nearly pure air, heated much or little, as the case may be, is diffused in the apartment for the comfort of those who use it. Hitherto we have allowed the heated air to spread in its own way, to blacken the ceiling, destroy curtains, pictures, and metallic decorations, and undermine the health of the persons breathing the gaslight heated air. Now we have a great gas flame in the room without fear; for although the carbonic acid is not all removed from the heated air given out by the machine, the proportion that remains is very small, and as the sulphur and mechanical impurities are entirely removed the small proportion of carbonic acid that remains is of little consequence practically.

Other articles exhibited at this stand are portable gas fire stoves, small gas cookers, boiling stoves, ironing stoves, and other gas heating appliances. Mr. Warhurst is also the agent for Mead's Patent Garden Seat and Table. The garden table has a box under seat useful for lawn tennis, croquet, bats, balls, tools, &c. When arranged as a seat and table it can be converted in a moment into a garden seat, fastening itself automatically, without bolts, pins, or screws. It is made of the best pitch pine and varnished. The moveable standards are made of the best malleable iron, thereby securing great strength, combined with lightness and durability.

A good collection of water heating apparatus for conservatories and greenhouses is also shown on this stand, together with wire-work baskets and stands useful as well as ornamental.

SUPPLEMENT TO THE
JOURNAL OF DOMESTIC APPLIANCES AND SEWING MACHINE GAZETTE.

SEPTEMBER 1882



GRISCOMS' ELECTRO-MOTOR FOR SEWING MACHINES.

Gold Medal Philadelphia, 1881.

Highest award Paris, 1881. Highest award London, 1882.

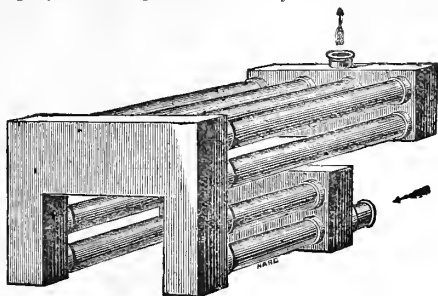
THE ELECTRO-DYNAMIC COMPANY OF PHILADELPHIA.

C. R. HEAP, General Agent,

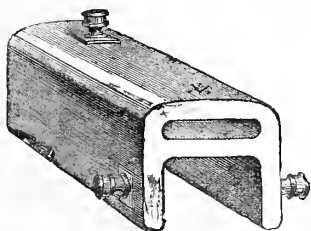
2, SCOTT'S YARD, BUSH LANE, CANNON STREET, E.C.

THE THAMES BANK IRON COMPANY, Upper Ground street, E.C.

A fine collection of wrought and cast iron boilers is shown by this company, the strength and durability of which are all that can



be desired. They exhibit hot water apparatus, made on the latest and most approved principle, and also ventilating and water and



gas appliances, and many kinds of stoves, all solid looking and giving proof of careful workmanship. The Thames Bank Iron Company are also manufacturers of iron pipes and general sanitary castings.

MESSRS. JOHN G. ROLLINS AND CO., Old Swan Wharf, Upper Thames-street, E.C.

A varied collection of domestic novelties is shown by this firm. For the garden there are "Archimedian" lawn mowers, which will cut grass either wet or dry; folding chairs with Gardener's perforated seats, which are portable and strong; and a collection of American horticultural tools. The "Champion" carpet sweeper is a small little contrivance, which speedily devours every speck of dust or dirt on the floor. Its digestion is strong, and unlike that of a human being it is not liable to get out of order. It is one of the most effective little machines we have ever examined. Many other domestic novelties are shown by Messrs. Rollins, including an ash folding table for lawn, cards, or sick rooms, a music stand, and window blind rollers.

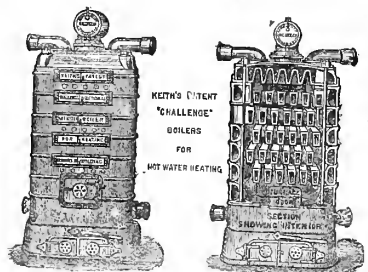
Mr. JAMES KEITH, Edinburgh.

Some of the very best boilers for heating conservatories and greenhouses are shown by Mr. Keith. His "Challenge" boilers are constructed in sections placed one above another in such a manner as to give about ten times the heating surface of ordinary saddle boilers, and they stand complete in themselves, requiring no brick setting or building work round them, being wholly "water jacketed." The "Section" drawing explains the interior construction. It will be observed that the heating surface is very great, and directly over the fire, even while rested; and, with the same fire grate surface, the power of each boiler can be increased or decreased by adding to or deducting from the number of sections. The carriage of these boilers can be most easily effected even in the largest sizes, and the boilers can be erected complete in a few hours. The draught is all upward, and all parts can be readily got at to examine or clean when necessary. These Patent Sectional

"Challenge" boilers have been in successful use for a considerable time both in this country and abroad. They require no building up whatever.

There is also exhibited at this stand Keith's Patent Portable Hot Water Apparatus, for heating small conservatory or greenhouse, the whole thing being set down on a wooden floor if necessary inside the conservatory. Mr. Keith also exhibits some excellent appliances for heating, which he calls "Patent Sectional Hot Water Coil Tables." These coils are ornamental, and require no coil cases, and they have three times the radiating surface in the same space of any other form of hot water coil made, and they can be readily put up or taken down, and made any length to suit requirements.

The following paragraph which appeared in our contemporary the *Bradford Observer* in February last, speaks very highly of Mr. Keith's manufactures. It says:—"After making numerous inquiries as to some of the best known systems of heating, and into



the relative merits of hot air, high pressure and low pressure, hot water, saddle, tabular, and other boilers, it was determined to engage Mr. James Keith, of Edinburgh and Arbroath, to heat the *Bradford Observer* Office. That gentleman has carried out the wishes of the proprietors in a manner which leaves little to be desired. In a large establishment like this, nearly all the depart-



ments of which are at a high pressure night and day, it is, of course, absolutely necessary that there should be as little friction as possible, and the expedition with which a considerable amount of complicated and tedious work was got through was remarkable. Each floor is heated by an entirely separate system of pipes fitted with cut-off valves, so that any floor can be heated or otherwise at pleasure, without interfering in any degree with the others. During the coldest weather of this winter, not the slightest difficulty occurred in keeping the office thoroughly warmed. Mr. Keith's boiler, which is not only exceedingly powerful but very economical, has been adopted for heating the new Technical School. Mr. Isaac Holden also employs Mr. Keith's boilers for his immense winter garden at Oakworth."

MR. J. DEVERILL Jun., Jersey House, Slough.

For watering lawns, tennis grounds, gardens and roads, a most excellent appliance called "Deverill's Patent Irrigator," was shown by the above exhibitor. It is fitted with three complete sets of rose, jet and fine spray combined, and H.P. valve and union for hose.

MESSRS. APPLEBY AND CO., Renishaw Iron Works, near Chesterfield.

Some excellent pumps, hot water boilers, garden rollers, ornamental gratings and such articles are here exhibited.

MESSRS. GROVER AND CO., Wharf-road, City-road, N.

An improved system of glazing conservatories, skylights, &c., is particularly illustrated by exhibits of this firm. There is also shown a patent leaf lifter for the speedy collection of dead leaves in gardens, &c.

MESSRS. W. AND S. DEARDS, Harlow, Essex.

Messrs. Deard exhibited several greenhouses and vineries, and also their patent coil boilers for heating hot-houses, halls, and conservatories.

MESSRS. F. BRANGWIN AND CO., Hackney, E.

A large display of garden seats and tables, croquet chairs and other rustic furniture, is made by this firm.

MESSRS. JEFFREY & Co., 115, Oxford-street, W.

A good display of horticultural appliances meets the eye of the visitor. There are garden arches, flower stands, rose temples, baskets and many other articles artistically made of wire work

GAS AND OIL WARMING, AND COOKING STOVES, AND LIGHTING APPLIANCES.

MR. THOMAS HERON, London-road, Manchester.

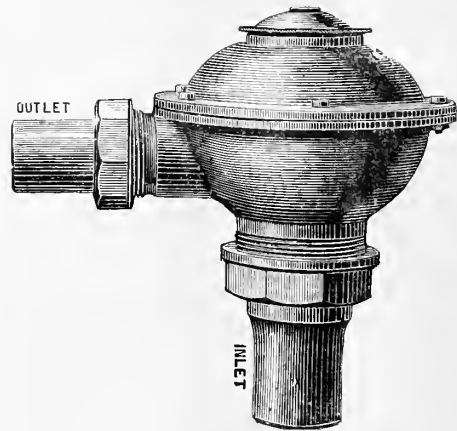
The Patent Duplex Gas Burners, for economising the consumption of gas, and for giving a better light, are to found at this stand. It is claimed that by their use a saving of gas equal at least 25 per cent. is effected. Their sanitary advantages are also great, by being arranged so as to at once burn all the gas which passes through them, we are relieved from the usual unpleasant and obnoxious atmosphere caused by a portion of gas which escapes from the ordinary burners unignited.

Dr. Mordey Douglas, in his speech at the Scientific and Sanitary Exhibition, Sunderland, stated that by the use of Heron's Duplex Gas Burners, a saving might be effected in Sunderland of £25,000 in one year.

Mr. HENRY HARRISON, 1, St Swithins-lane, E.C.

A most efficient gas regulator "Devine's Patent," is shown at this stand. It is designed and constructed according to carefully ascertained scientific data, and every part is accurately estimated

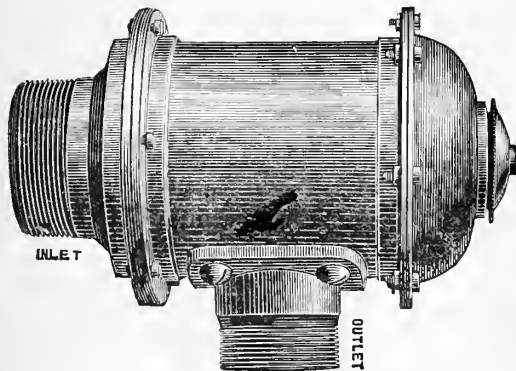
no attention after being once adjusted, and it has no complicated arrangements. The principle on which it is constructed has been proved effective by the testimony of large numbers of most important firms and institutions. It saves from 20 to 30 per cent., and affords a clearer light. Its simplicity is a very great recommendation. There is nothing in it to get out of order. It proposes to deal with surplus pressure, and this it does most effectually. The price is



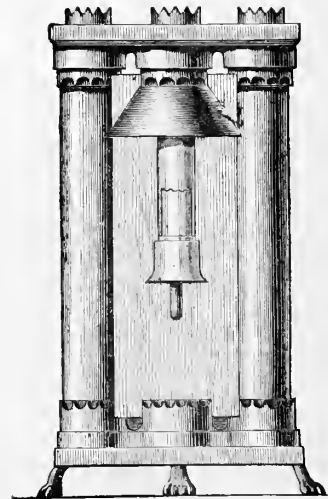
very reasonable, and the saving effected are equal to, from two to four times the entire cost in the course of twelve months. Mr. Harrison has been the recipient of the weightiest testimony in the shape of "results," which demonstrates the efficacy of this regulator. Certainly no gas consumer should be without a regulator.

MESSRS. WEBSTER AND CO., Nottingham.

At this stand are exhibited many appliances for warming and heating by means of gas. The Webster Gas Fire we notice gives out a good strong heat, while the gas it consumes cost but a few



with a view to the desired end, and is of the best material and workmanship. It is not subject to the disadvantages that the use of mercury or other fluids entails. It is self-acting, and needs



Syphon Stove.

pence per day. For economising the consumption of gas and at the same time improving its light, they show a patent burner, which will save the purchaser 25 per cent of his gas bill. A good

heating stove for a conservatory is also exhibited, it is cheerful, handsome, burns either oil or gas and gives no smell. Their new patent gas regulator is a valuable appliance and could be used with advantage in every household. Altogether the collection of gas novelties is very good, and shows to what great advantage gas has over coal.

MR. R. OAKLEY, 235, High Holborn, W.C.

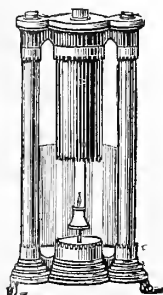
At this stand were shown Beckerdickes Self-acting Gas Regulators, which are guaranteed to save 20 per cent of the quantity consumed. This regulator is used in the majority of the street lamps of London, and is simple and effective in regulating the supply of gas to the burner.

Mr. W. THORNBURN, Borough-bridge, York.

Some good petroleum heating stoves are shown by Mr. Thornburn. These stoves give a great amount of heat, also the full light of a lamp, and are entirely free from smell. The cheapest, safest, and best was of heating known; and for cooking purposes unrivalled. They are made with strong block tin, with copper tubes, and burnished.

THE HYGIENIC HEATING AND LIGHTING COMPANY,
2, Park-street, Islington.

Various specimens of the "Syphon" hygienic gas stoves formed a



very pretty exhibit. They are very suitable for halls, greenhouses, bedrooms, and offices.

MESSRS. DEANE & CO., 46, King William-street. E.C.

Crane's Patent Registered Stove for burning anthracite coal and reducing smoke from ordinary coal and curing smoky chimnies, is exhibited at this stand. We noticed also Fletcher's gas cooking and heating stoves, and many other domestic appliances.

MESSRS. S. LEONI AND CO., 66, St. Paul's-road, N.

This firm occupy a prominent position, and make a good display of gas cooking, warming and heating stoves. Their cooking stoves are certainly marvels of ingenuity.

CULINARY APPLIANCES.

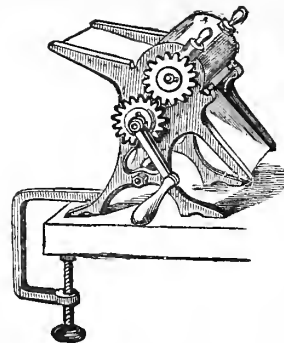
MRS. E. H. JOLLEY, 2, Rue F'kint, Brussels.

Some excellent safes for preserving meat and other provisions form this exhibit. They are so constructed with ice chambers at the top that their contents in the most sultry weather are deliciously cool.

MR. ARTHUR LYON, 32, Windmill-street, Finsbury, E.C.

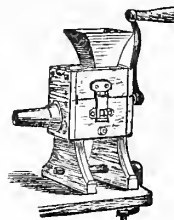
Mr. Lyon exhibits a large collection of machines for mincing meat, making sausages, shelling peas, peeling cucumbers, slicing onions, cutting bread, grinding coffee, and many other purposes all tended to lighten the cook's labour. To begin with, his machine for cutting meat and making those articles, which when not home

made, are derisively called "bags of mystery," is an excellent little invention. It is very strong and durable, and is made of wood lined with pure metal. It is made in various sizes suitable for a

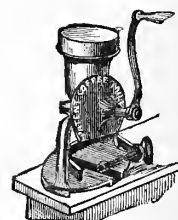


Knife Cleaner.

family or for an hotel. A valuable domestic appliance is his bread cutting machine; it will cut new or stale bread into slices of any thickness, which can be regulated by the guide fastened to the end of the blade-arm. The knife being a half circle, it fairly cuts through without pressing the loaf, and will be found a great improvement on any previously introduced. One of the most novel

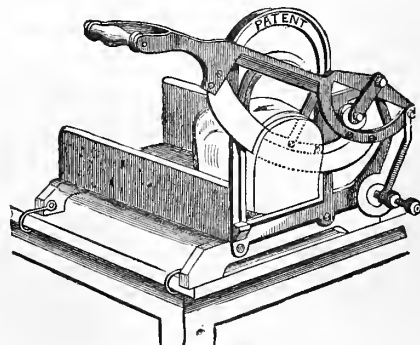


Meat Mincer.



Coffee Mill.

inventions is a machine for shelling those toothsome vegetables usually associated with roast duck. This nimble machine will shell pretty well a bushel of peas in a quarter of an hour. Roast duck and peas may be very nice, but supposing one suffers from serious indigestion, or one has lost one's teeth, what then? Why, then says Mr. Lyon, use my digestion machine, which—well it

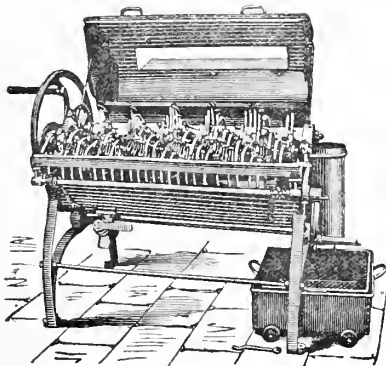


Bread Cutting Machine.

won't swallow your food—but it will get it ready for you to do so. Among the other articles found on this stand, which we have not mentioned, are churns for cool dairies, meat salting machines for hot weather; machines for cutting French beans, and knife cleaners. Even now we have to pass on leaving many useful inventions unnoticed.

MESSRS. BAASER AND CO.

One of the greatest novelties of the exhibition is a machine for peeling potatoes which will be found of great use in hotels, and places where food is consumed in large quantities. The machine will peel as many as fifty potatoes at once, and all the operator has to do, is to drop the potatoes into an aperture and turn the handle. Inside the machine are a number of curved files, which



rub rather than cut the peel from the potato. There is thus no waste, and the peels pass into the under part of the machine, while the potatoes divested of their skins, drop into a trough of water at the side. Our illustration will explain this machine better than our words perhaps. For full particulars we refer our readers to Messrs. H. J. Gehlsen and Co., 171, Queen Victoria-street, E.C.

MESSRS. F. AND C. HANCOCK, Dudley.

A variety of machines for washing butter from the churn, and for turning salt butter into fresh, for kneading dough, and for grinding sugar, are shown at this stand. We noticed most especially a new machine for peeling and washing potatoes, which it certainly did in a very expert, simple, and admirable manner. The cost of this machine too is very small, and should be used in all hotels, schools, and large families, where many potatoes are consumed, as the saving of waste must be very great indeed.

STOVES AND GRATES, &c.

THE EAGLE RANGE AND FOUNDRY COMPANY,
Birmingham.

Some very fine ranges are shown by this Company, both for the private house and the hotel. They make an excellent nickel plated grilling stove, and indeed all their manufactures are well made and carefully finished.

THE WILSON ENGINEERING COMPANY, LIMITED, 247,
High Holborn, W.C.

Several excellent ranges are exhibited by this firm. They are portable, require no brick setting whatever, each having a single smoke pipe, which may be carried to any chimney; they cannot get out of order. Fire bricks are not used in the fire box. An air-valve regulates the fire, so that almost all the heat engendered is employed in the range, and but little passes up the chimney, thus rendering a fire in the latter almost, if not entirely, an impossibility. The combustion of the smoke and the noxious gases is ingeniously effected by means of intensely super-heated air. The cold air, in the first place, being admitted through a ventilator in the fire door, is made to travel through flanged chambers, of which the fire-box itself forms in every case one side; in this passage it is thoroughly heated, and meets the smoke and gases as they leave the fire-box, where the progress of the latter is somewhat arrested by means of a plate called a "baffle" plate. At this point the heated air and smoke, &c., mingle, producing almost perfect com-

bustion before travelling round the flues surrounding the ovens and boilers. The range, therefore, is practically a smoke-consuming one, while but little soot comparatively accumulates in the flues.

MESSRS. EWART AND SON, 346, Euston-road.

The "Empress" ventilator and smoke cure is exhibited by this firm. The best method of preventing a down-blow in a chimney is to produce a strong up-current, and that in bad cases this can only be effected by the use of a movable head turning by the action of the wind. The old grinder cowl has long been known as the best kind of movable top, but is open to these serious objections—the noise made by the friction of the spindle, and the liability to become stationary through wearing away and through accumulation of soot. It has been the effort to obviate these in the Empress Smoke Cure, by making the spindle work on a carefully turned steel centre placed at the bottom of the box containing a quantity of oil. By this means friction is so much reduced that the head revolves without noise, and almost without wear. To avoid accumulation of soot, Archimedeian screw is left out, and the spindle placed in the top of the cowl, so that the tube is clear all the way up to the top of the fans, for passage of sweep's broom. The frame which supports the oil box also forms a scraper clearing the soot as the cowl revolves. As an additional protection against down-blow we have retained the interior cone, which is the distinguishing feature of the Empress Ventilator, and by increasing the size of the wind fans the cowl is made to turn rapidly with even a slight breeze, and a steady up-current is produced.

FURNITURE.

MR. W. M. HOLDON, 73, Scrutton-street, E.C.

A good collection of furniture, Early English style, is shown by this manufacturer. Some of the articles are very choice, one black and ambogna octagon table, inlaid with English holly, taking our fancy in particular. We noticed most especially a small round table made for the Earl of Dartmouth, which can be screwed like a music stool to any height. It will also fold into a very small compass, and is thus handy for shipping.

MR. W. WALLACE AND CO., Curtain-road, E.C.

A large exhibit of furniture, "Early English," and other styles is shown by this firm.

MR. W. H. VAUGHAN, Old-street, E.C.

Some excellent side-boards, dining tables, book cases, and other furniture are here exhibited.

MR. A. S. BISHOP, 17, Gibson-square, N.

A collection of croquet, lawn tennis, cricket, and other games together with fancy goods form this exhibit.

MR. W. BRIGHT, Caledonian-road, N.

Several well made brass bedsteads are shown by the exhibitor. One especially made for the continental market, has sides to it like a child's crib.

MR. G. GREEN, 58, Caroline-street, Birmingham.

Some very fine metal goods are shown by Mr. Green, paraffine oil and reading lamps, flower vases, waiters, coal vases, finger plates and panels, and a variety of useful and fancy household articles.

MR. J. PARRY, Eagle Works, Broad-street, Birmingham.

Patent castors for furniture, pianos, and bedsteads, are shown at this stand. They are direct bearing and able to carry heavy weights. They will face work effectually, and not break or scrape the pile off carpets. We also noticed Parry's Patent Toilet Glass Movements. These can be fixed by any person to toilet glasses now in use, without removing the old fittings from the frame. They may

be tightened at pleasure by screwing up the knob or the split-nut with a penny piece. The Birmingham Patent Toilet Glass Co. use Parry's Patent Movements, and supply shippers and the trade at the same prices as the defective wood knobs now in use upon representation of card or name of firm only. They are a most excellent invention and should be more generally used.

MESSRS. J. W. AND N. JARVIS, 60, City-road, E.C.

A very handsome exhibit of furniture is made by this firm. The stand is tastefully arranged.

MR. ROBERT ADAMS, 7, Great Dover-street, S.E.

Mr. Adams exhibited his Patent Safety Window, which can be instantly changed from vertical sliding into swinging sashes, to prevent serious accidents while cleaning, for ventilating, and to admit cumbrous furniture. These sashes are hung on his new Patent Fanlight Centre, and are fitted with his patent "Triumph," adjustable and secure sash fasteners. He also shows fanlights, opening simultaneously by his patent apparatus. These are applied to greenhouses, conservatories, &c. We also noticed a patent method for hanging doors, patent spring hinges and other excellent inventions.

Mr. A. DEUTSCHE, Brunswick-place, City-road, E.C.

A quantity of bent wood and other tastefully made furniture is shown by this exhibitor.

BLACKINGS, BLACK LEADS, &c.

MESSRS. JULIUS LEVY AND CO., Leadenhall-street, E.C.

We were presented at this stand with a cake of "Silver Gloss" blacklead, with a request that we might take it home and try it. We did so, and gave it to our kitchen-maid and watched her apply it to the kitchen range. What was the result? Why, we saw very



quickly in the stove before us, the reflection of our maid, even to the two black smudges on her face, and our white little Pomeranian, also a spectator of the performance, suddenly made a dash at what he imagined to be another little dog, in the shining grate before him. The "Silver Gloss" is not only brilliant, but it is cleanly and economical to use; when once tried, will never be discarded.

MR. H. MAY, Gooding-road, N.

The well-known extracts of soaps and washing powders are shown at this stand. May's Improved Extract of Soap is most useful for washing, cleaning, and cleansing purposes of all kinds, no matter how dirty or greasy the article may be. It is especially useful for washing the hands, being a great purifier, and it lathers freely. No soap is required if this extract alone is used. May's Washing Powder for softening hard water, and for all laundry purposes, may be used for the finest laces or linens to the coarsest towel, and is a great labour and time saver.

MR. J. HALSEY, Belle Isle, N.

For giving a good brilliant polish to the understandings of Her Majesty's subjects there is nothing like Halsey's Premier Japan Blacking—at least, those are Mr. Halsey's sentiments. We took home with us a packet, and tried it, and well, there certainly was shine in our office then. It has rendered our editorial boots pliable and soft, and though we cannot say the polish is such as to render a looking glass a superfluous object, it is as good, if not better, than

any we have seen there for sometime past. If Sam Weller had been alive now, we are sure he would have given Mr. Halsey a testimonial, and as for the Artful Dodger, why, to use his words, it would have been just the thing for "japanning his trotter cases." Putting joking aside, it is a good blacking and will not injure the leather like many others, which are so often composed largely of acids.

MESSRS. DUNKERTON AND SON, 18, Elgin Mews, Maida Vale.

A thorough good harness composition, called Dunkerton's "Royal Jet," and made of substances nourishing to leather, is shown by



this firm. It is of a pure jet black, and will give a brilliant polish with one-fourth of the labour usually necessary. It enters the pores of the leather without the aid of dye, and is unequalled for resisting wet. After applying this composition the harness is always soft and pliable, and keeps in good condition.

BAZAAR AND FANCY ARTICLES.

THE PATENT PULP MANUFACTURING COMPANY, LIMITED, 79, Coleman-street, E.C.

A variety of washing basins, oval and round trays, flower pots, decanter stands, ash trays, and other articles, made of patent steel pulp ware, form a novel exhibit. They are light, strong, and durable, and possess the advantage over earthenware of being unbreakable. If plates and dishes be made of this substance, there is no fear of their breaking through an accidental tumble.

MR. T. H. BROOKE HITCHIN, Ludgate Hill, E.C.

Two or three well made and lightly constructed perambulators called the "Go a Head" are seen at this stand. Their wheels are



large, and the perambulator seems altogether built with a view of obtaining easy and noiseless motion. What a contrast to those lumbering creaky contrivances of our childhood?

MR. J. ETARD, Portland-terrace, Upper Norwood.

A collection of electrical appliances, pocket lamps, and various domestic articles are here exhibited.

MR. A. A. DAVIS, 46, Buckingham-road, N.

A collection of domestic and other novelties form this exhibit, which includes barometers and similar articles.

MR. J. FIELDHOUSE, KEIGHLEY.

Patent boot protectors, that is, pieces of metal for fastening on the soles of boots are shown by Mr. Fieldhouse.

MESSRS. CHASE AND CO., 17, Little Trinity-lane, E.C.

This is an exhibit of American lamps, patent button fasteners and other novelties that hail from across the "pond."

MR. W. H. MATTHEWS, 32, Charterhouse-square, E.C.

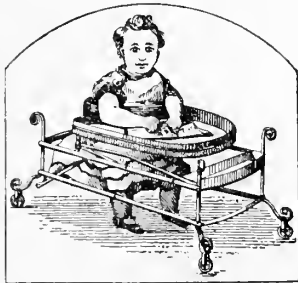
For the counting house and office Mr. Matthews shows a collection of files, paper holders, binders, newspaper holders, and other similar articles all handy and useful.

MR. J. EDWARDS, Stonefield-street, Islington, N.

Mr. Edwards, shows a number of knife cleaners, and other articles of domestic utility.

MR. BOWDEN, Soho Bazaar.

A large number of domestic articles are exhibited by Mr. Bowden. We noticed more especially a clever little contrivance for children. It is called the patent automatic chariot, and is constructed so that a child when placed in it can stand, walk about, or set down, and when doing either of the two former, the weight of the infant is



partially supported by a band which encircles its waist. It is thus very evident that no child who had one of these chariots would ever become bandy legged. At the same time the youngster has a table before him, formed by the chariot, on which he can place his toys, and as he cannot get out of the vehicle, there is no fear of him getting in the fire or any other danger.

MESSRS. J. FOOT AND SONS, 330, High Holborn, W.C.

A novelty for domestic use is the Patent Combination Pocket Scissors. The practical utility of this little implement, on becoming better known, cannot fail to be appreciated. There are twelve articles in one, and is a very useful pocket companion.

MESSRS. T. J. MIDDLETON AND CO., High Holborn, W.C.

The principal exhibits of this firm consisted of their Prize Medal Magic Lantern Slides, which not only form an endless source of amusement, but of real and valuable instruction, imparted in a form as agreeable as it is practical. Magic Lanterns appeal to all of us. The scope of the excellent slides produced by Messrs. Middleton and Co. is extremely comprehensive, from punch and judy, magic and mystery, to the most graphic views of the principal cities, buildings, mountains, lakes, &c., in the world, but also furnish material for interesting or picturesque illustrations, poetical readings, comic stories, and a host of other interesting and diverting subjects are described and illustrated by the slides supplied by this firm, to the amusement of the elders and the mingled awe and admiration of the young. For further inquiries we would advise our readers to apply to Messrs. Middleton and Co. Seven grand Prize Medals have been awarded to them for superior apparatus.

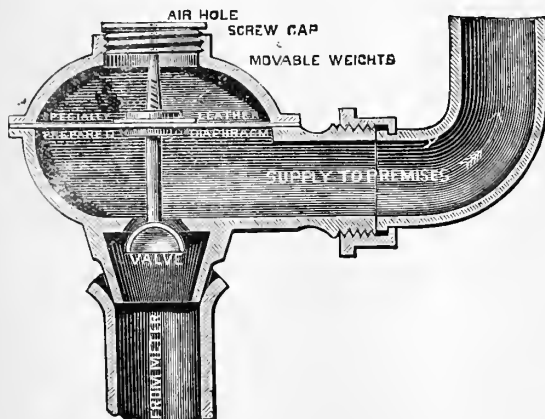
GAS AND STEAM ENGINES, &c.

THE TURNER GAS ENGINE COMPANY, LIMITED, St. Albans, Herts.

One half horse power gas engine is shown at this stand. We notice that there is no noise from the explosion of gas, that it is silent and regular in working, and is strong and compactly constructed. It works by the expansive force generated by the combustion of a mixture of gas and air, but the gas and air are not compressed in the cylinder. The extremely high temperature due to compression is avoided. The piston and slide valve do not cut or abrade, and their proper working is secured with a small quantity of lubricating material. The power required in compressing the gasses is saved, and the complication of machinery rendered unnecessary, making it a simple and cheap gas engine. The propelling force is applied to the crank and shaft every revolution, consequently a much lighter fly-wheel can be used. The motion is regular, and the strain upon the rods, shafts, and bearings considerably reduced. The cylinder is surrounded with water, so that the air of the work room is not injuriously or unpleasantly heated. The whole of the surface in contact with the slide valve is maintained at a uniform temperature. This prevents abrasion of the parts, secures proper lubrication, and renders springs, usually applied to the back of the valves, unnecessary.

MESSRS. J. E. H. ANDREW AND CO., Stockport.

This firm showed the well-known "Bisschop" Gas Engine, which is most economical and simple, requiring scarcely any attention. There is no danger of explosion; it makes little noise, and in most cases may be placed in the upper storey of a house.



BICKERDIKEY'S SELF-ACTING GAS REGULATOR,

Patronized by Her Majesty.

SAVES 30 PER CENT.

Wholesale, Retail, and for Exportation of

R. OAKLEY,

235, HIGH HOLBORN, W.C.

It is very strong and easily managed. The piston and side-valve do not require oil or grease, which enables it to run night and day without supervision. The engine needs no other fixing than simply being placed on the ground, and no separate meter is requisite. It requires no water. It will be found of the greatest utility for any machine requiring but small motive power, and is invaluable as a substitute for manual or foot power.

MR. MAURICE GANDY, 180, Queen Victoria-street, E.C.

People say that "there is nothing like leather," we for once beg most respectfully to differ. For foot-gear and many other purposes it may be excellent, but when it comes to driving machinery it will have to give in to cotton belting. The superiority of this substance for mill bands was discovered by Mr. Gandy, and he invented and patented "Gandy's Patent American Cotton Belting." It is made of the best American cotton duck, hard woven, folded and sewn together, after being saturated with a composition to prevent the atmosphere having any effect upon it. This belting may be used for any purpose to which leather is applied; it is thoroughly waterproof and impervious to climatic influences and the variation of temperature. It clings well to the pulleys, runs true, and can be made any length without joints, advantages which will be appreciated by users. It is suitable for any width of pulley, some being made five feet wide—and one end can be tapered if necessary to prevent "jump" in running. Some very severe tests have been applied to ascertain the relative strength and value of Gandy's main driving belt as compared with leather. At one of these experiments the best quality leather 6-inch belting withstood a breaking strain of 3,572 lbs. to the square inch of section, while Gandy's 6-inch eight-ply cotton belting with a strain of 6,811 lbs., or nearly double that of the leather belting, while the cotton belting is less than one half the other. These results are very remarkable, and it would seem that the stronger and cheaper belting is likely to supersede leather, especially in these competing times, efficiency and cost have to be considered in all commercial matters. The patent belting is successfully used in over 4,000 mills and works in this country and abroad, including Messrs. John Crossley and Sons, the well-known carpet factory, Halifax; Messrs. Siemens Brothers, Woolwich, and other eminent firms. At various exhibitions Gandy's patent cotton belting has been awarded first prizes.

MR. E. S. HINDLEY, Bourton, Dorset.

Several powerful horizontal and vertical steam engines are shown by this exhibitor. There are also exhibited circular saw benches, with band saw apparatus for steam or hand power.

SUNDRIES.

MESSRS. BEEMAN AND ROBERTS, King-street, Cheapside, E.C.

The type writer shown by Messrs. Beeman and Roberts writes with upper and lower case, (capital and small type) with one set of keys, Roman or Script type. It is highly finished; the working parts are open to view while in use. When not in use it is enclosed by metal cover, by which it is "portable."

THE COPYING APPARATUS COMPANY, 36, Farringdon-street, E.C.

One of the handiest contrivances for getting a number of copies of one letter in good black ink, is an invention shown at this stand and called "The Cyclostyle." By fixing the prepared paper in the frame by means of the India-rubber rods, and writing on it with the cyclostyle pen, the metal-plate being underneath and the frame closed, a stencilled original is obtained, in which the letters consist of a number of minute points, but so close together that the lines and strokes on the copies taken from it seem continuous. A great advantage which it offers is, that the original stencil, when the required number of copies has been taken, can be laid aside and used again after any lapse of time. If, therefore, through want of time, it is impossible to complete all the copies wanted at the one operation, further copies can be taken subsequently as required. It is very simple in manipulation, can be worked by a boy, requires no wetting of any part, and no press, and only wants a little care in writing and in fixing the prepared paper in the frame, so as to get it to lie flat without folds or creases, to ensure admirable results.

MR. H. C. STEPHENS, 191, Aldersgate-street, E.C.

Preparations for Dyeing Wood in imitation of oak, mahogany, walnut, satinwood, rosewood and ebony. Each of Stephens' Stains consist of the most durable colour matters, so combined as to produce a close and extremely natural resemblance to the real woods. For interior work they are far superior to paint in point of durability and economy. (They have been awarded the gold medal at Adelaide—this being the only gold medal ever received for stains for wood—and have gained ten other international medals, all highest awards.

MR. J. EDWARDS, 134, Pentonville Road, N,

Some excellent condiments are shown by Mr. Edwards. His chutney, which he styles "The Favorite," is a delicious sauce, and an invaluable aid to digestion.

THE REMINGTON PERFECTED TYPE-WRITER.



THE PERFECTED TYPE WRITER.

Genius and Labour have long been exhaustively applied to the invention of a machine to take the place of the Pen. The Perfected Type-Writer is the result. The writing is done by touching keys, and the manipulation is so simple and easy that any one who can spell can write with it. It prints several styles of Type, including capitals and small letters. Type writing is incomparably superior to pen writing in legibility, accuracy, compactness, and style. It saves clerk hire, stationery and time; writing much faster than expert penmen, and condensing matter to one-quarter the space occupied by pen writing. The blind, the party paralysed and maimed can use it writing very rapidly. It is strongly and accurately made, and is practically noiseless. Letterpress, manifold and lithographic copies and reproductions can be made, and any kind of paper used to 16 inches wide and from one inch long to a continuous roll.

BEEMAN AND ROBERTS,
Depot :-6, KING STREET, CHEAPSIDE, LONDON, E.C.

THE Highbury Sewing Machine Company, 33, Holloway-road, N.

A varied display of domestic appliances is made by this company. We notice washing machines, iron stoves, knife cleaners, kitting machines, perambulators, sewing machines, and bicycles amongst the many articles shown.

Mr. P. A. MAIGNEN, Great Tower Street, E.C.

Maignen's Patent "Filtre Rapide," in which a new patent filtering medium, "Carbo-Calcis," is used, purifies the water absolutely. This medium, which is ground to impalpable powder, when "set" on the filtering surface is like an army in close order presenting no weak points to the enemy, so that no animalcule, nor mineral or vegetable particles, be they ever so small, can go through.

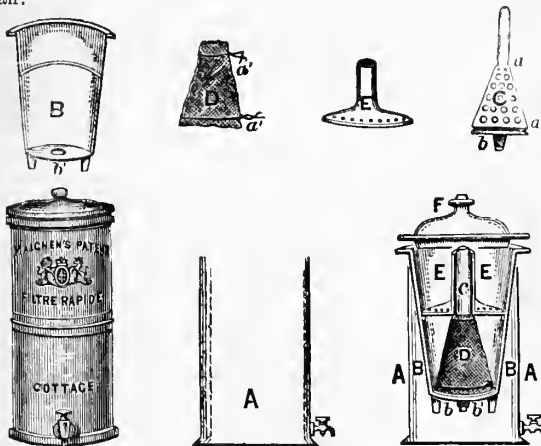
The "adhesive surface" of Maignen's patent "Carbo-Calcis," powdered, is very much more considerable than that of any coarse medium: thus a coating of 1-16 inch of this finely powdered medium has upwards of fifty square inches of adhesive surface in every square inch of filtered surface.

Speaking of this new filter, *The Lancet* says—"It is based on the now well ascertained fact that a thin filtering bed of fine material is more efficacious than a thick one of coarse material."

But besides being efficacious, this new filtering medium and this new way of applying it is very economical, as very little of it is required to do a great deal of work. Besides arresting all suspended matter, it absorbs gases or dissolved organic matter, and it has a strong chemical affinity for calcium carbonate and calcium sulphate iron, and other dissolving mineral substances which it takes up from the water.

The advantages of soft water for cooking vegetables, making tea or coffee, and for drinking purposes, particularly for persons who are liable to calcic deposits, are to well known to need comment.

In the old fashioned filters the water is rendered flat. In this new filter, on the contrary, it is thoroughly aerated during the process of filtration—the mechanical construction of the filter being such that every drop of filtered water comes in contact with pure air.



To be efficacious, filtration must be very slow over a given area; for rapidity therefore, it is necessary to have a large area of filtering surface; this is one of the distinctive features of Maignen's Patent "Filtre Rapide."

With regard to the second point, namely, the facility for cleansing the filter, nothing is easier, as will be seen by the following illustrations showing the various parts of the domestic and portable water filters.

Fig. 1 (A) is the reservoir for the filtered water.

Fig. 2 (B)—the filter case proper.

Fig. 3 (C)—a filtered frame, offering a very large area of filtering surface to the water.

Fig. 4 (D)—a filtering cloth of pure woven asbestos, which, as is well known is indestructible even by fire. This cloth is tied with pure asbestos cord round the frame C at a a. On the outside of this cloth a layer of finely powdered filtering medium—Maignen's Patent "Carbo-Calcis"—is automatically deposited, by being mixed with the first water put into the filter. It is this layer of "Carbo-Calcis" which arrests the impurities, soluble and insoluble, contained in the water.

Fig. 5 (E) shows a screen for protecting the filtering medium when once "set."

The top of the air-pipe may be filled with cotton wool.

Fig. 6 shows the filter complete. The packing round the outlet of the frame is of pure asbestos, so that there is positively nothing in this filter capable of decaying, or giving any offensive quality of the water.

When Maignen's Patent "Filtre Rapide" requires cleansing, the filtering frame C D is taken out, the old filtering medium is washed off, and the filter is set afresh with new filtering medium.

This filter has been acknowledged by the best sanitary authorities to possess all the qualities required of a perfect water filter. It has been awarded a Special Medal by the Sanitary Institute of Great Britain, the only medal ever awarded by the Institute for filters; a certificate of merit (highest award) at the Medical and Sanitary Exhibition; a Silver Medal (highest award) at the Brighton Health and Scientific Congress. Of this class there is the "Cottage," made of Brown Stoneware, and the "Bijou" class of Decorated White Porcelain. There is also constructed on the same principle, a Metallic Filter "Service." Filtre Rapide, specially designed to be fixed below the tank, to filter the whole supply of water for mansions, hotels, hospitals, clubs, schools, &c., and the Army and Navy.



LIQUIDATIONS BY ARRANGEMENT.

Richards R., Chatteris, ironmonger.
Hall, G., Worcester, ironmonger.
Moore, S., Clifton, Bristol, ironmonger.
Naylor, T., Halifax, engineer, &c.
Slater Brothers, Sheffield, spring-knife cutlers.
Stables, W., Morley, ironmonger.
Chambers, F. A., Liverpool, hardware merchant.
Davies, J. W., Newtown, Montgomeryshire, ironmonger.
Heaps and Robinson, Leeds, ironmongers.
Tidesley, D., and Hailey, A., Paddington, ironmongers.
Vernon, J., West Bromwich, engineer.

PARTNERSHIPS DISSOLVED.

Edwards and Son, 49, Great Marlborough-street, stove manufacturers.
Hutchinson and Bond, Barrow-in-Furness, ironmongers.
Joseph Brothers, 271, Liverpool-road, Islington, ironmongers and tinmen; so far as regards William Joseph.
Newall and Ogilvie, Bristol, engineers.
Peacock, F., and Co., Lowestoft, general merchants.
Stacey and Shaw, Sheffield, spring-knife cutlery manufacturers.
Morgan and Waide, Westgate, Rotherham, and London, stove-grate manufacturers; so far as regards J. C. Morgan.
Morris and Bennett, Blackfriars-road, engineers.

BANKRUPTS.

Pryce, Thomas, Essex-road, Islington, ironmonger.

MR. A. W. FINLAYSON ON FRIENDLY SOCIETIES.

The following is a report of a speech recently delivered at Johnstone, near Glasgow, by Mr. A. W. Finlayson, of the firm of Finlayson, Bousfield and Co., the well known thread manufacturers of the former town. He said:—It is interesting to study the construction and movements of a great machine, how wheel and pinion, cam and screw do their allotted work. One of the most complicated machines we can study is, a country such as our own. The study, of its varied institutions, will always afford pleasure to every intelligent mind. The first great institution is our Government, the main spring of which is the Imperial Parliament, then every county, every city, every parish, every burgh, works out the details allotted to it, and so this great country, this great machine moves along. Besides our Government—which all true-hearted citizens cordially support in its endeavours to carry out everything in decency and order, and in its efforts to direct the course of trade and maintain the name of Britain in the place it has always held among the nations—there are other associations which, although voluntarily supported, form no inconsiderable factor in uniting society, in keeping alive the spirit of the nation and in directing the public mind. (Applause.) Man is a social being, he loves the society of others, and long before the days when Tam O'Shanter, Souter Johnny, and other trusty, drouthy cronies foregathered, men were wont to unite to carry out a common object, and they do so still—

"For man to man the world o'er
Shall brithers be, an' a' that."

(Applause.) We have social clubs, political clubs, all sorts of sporting and athletic clubs; unions among workmen to raise their wages—(laughter)—and sometimes unions among employers to enhance the price of their products. In busy times such unions seem to grapple successfully with the stern rules of political economy. A dubiety seems to exist about all the associations I have named, that is to say they do not meet with unanimous support. There are good arguments against, as well as in support of many of them, but there is another class of associations which meets with the cordial approval of all, namely, our charitable and benevolent societies. There are, it is true, some men who are perfect in money grubs, whose sole object in life is to scrape together so much money. To balance this class there are probably quite as many who, in a sense, disregard wealth, and whose sole endeavour is to carry out the scheme on which they have set their minds; many of our most brilliant geniuses, although poor, have died satisfied in having solved the problem of their hopes and leaving the world better than they found it. (Applause.) I believe the great majority are fighting for "the glorious privilege of being independent" in the position which Providence has placed them. One speedy way for a man to make himself feel to a certain extent independent is to join a friendly society—(applause) for he then knows that, let sickness come when it may, arrangements are made to support his family and to provide medical skill to alleviate his distress. There is a national pride inherent in us; the poorest amongst us spurns the assistance of a poor board and rebels against the idea of being buried by a Mr. Sowerberry, assisted by an Oliver Twist, according to the direction of a parish beadle. (Applause.) This national pride and the intelligence of the people of this country is clearly shown by the fact that one person in every nine is a member of a friendly society, while in Belgium there is only one in sixty-four, and in France only one in seventy-six. From a Government return, published in 1880, we learn that in the year 1878 there were in the United Kingdom 13,223 friendly societies, consisting of 5,304,001 members, with assets amounting to £13,026,940. The total receipts to benefit fund amounted to £2,978,099, and the total expended in benefits was £2,097,025. One of the most popular and most important friendly societies is the Ancient Order of Foresters. (Applause) In it there are 563,909 benefit members and 13,224 honorary members, including 26 peers, 12 sons of peers, 6 bishops, 20 baronets, 6 judges, 11 knights, and 205 members of Parliament. (Applause.) The total court funds are £2,707,685, and district funds £342,740—total,

£3,050,425. In regard to the Johnstone branch, in which we are more particularly interested, the total funds at the half yearly balance in April last amounted to nearly £285, all invested in good securities. (Applause.) In the Johnstone branch at present there are 14 honorary and 199 benefit members. This branch is anxious to add to its list of members, so permit me to lay before you the objects and benefits of this society. (Applause.) The objects of this society are—First, to insure certain sums of money on the lives of its members, and for the burial of members' wives and widows; second, to pay a weekly allowance to members when bodily or mentally afflicted, and thereby unable to follow their employment; third, to supply medical attendance and medicine to members; fourth, to grant assistance to members in distressed circumstances, widows or orphans of this or any other court. (Applause.) The surplus funds are invested in Government or other solid public securities, the society is registered under an Act of Parliament, and conducted according to law. By paying an entrance fee and a moderate monthly contribution, which varies according to age, men between 18 and 40 may become members. When sick, members receive 10s. per week for the first 17 weeks, 7s. 6d. per week for the second 17 weeks, 5s. per week for the third 17 weeks, and 3s. per week during the remainder of the illness. In American cities the most gorgeous buildings are the insurance offices—they are got up regardless of expense. I once asked an American if he had insured his life. He replied, "Do you think I am going to pay out my money to build palaces like these, and pay large salaries to a number of over-fed managers and secretaries?" Now, the Forester's Society indulges in no such extravagances; it is cheaply conducted, and the management and distribution of its funds are in the hands of its members. (Applause.) The principal argument used against insurance companies is, that if people live a given time the premium paid in will amount to more than the sum insured. This may be true, but then an accident or death may suddenly overtake us when we least expect. The Forester's Friendly Society offers better inducements than an insurance company. An insurance Company only pays at death, whilst the Forester's Society pays during sickness as well as at death. (Applause.) Now many men may grudge paying sipping, or even threepence a week into a friendly society—they think it a lot of money. Probably if those who talk most strongly in this manner reflect for a little, they will find that they often throw away ten times that sum in the most frivolous and unsatisfactory way. In our large cities there are numerous cases of old persons who at one time moved in the wealthiest circles of society, but are now poor and entirely depend on the sums granted to them by benefit societies, to which fortunately some deceased relative subscribed. The sum of £10 is paid at the death of every member of this society, but if a member wishes to take as much as he can out of it, the only way to do so is to get a wife, and the society will give him £7 to bury her. If a member then goes in for a second wife, he must produce a medical certificate as to her health and subscribe £1 to the funds, but he only gets £5 to bury her. (Laughter and applause.) The rules are silent as to what is to be done if a member successfully woes again and proposes to bury his third spouse. Probably the Foresters might regard him as a Blue Beard, and think he had got quiet enough already. (Laughter and applause.) Those of a puritanical turn of mind may make disparaging remarks about the uniform adopted by this society. A little display, however, keeps us lively. Fine feathers make fine birds. I think this society has been particularly happy in its choice of a dress. It is very picturesque, and Robin Hood has always been a popular character, as tradition says that while he robbed the rich he was generous to the poor. Perhaps some of you have heard the story of the young Paisley gentleman who, on visiting London for the first time, wrote home:—"Here I am my dear mother, in this vast city, hat on side of head, handkerchief out of pocket; cane in one hand, glove in other; lord on one side, lady on other. Oh! my dear mother you would not know your own son." (Laughter.) I dare say Foresters, that perhaps your mothers did not know some of you when you were marching up the Thorn Brae this afternoon. (Laughter and applause.)

TRADE AND FINANCE.

Some of the most remarkable developments of our commercial system are often disregarded until a slight accident brings them into view. The basis of personal credit in trade ought to be a very sound one, for on it are all transactions of the trade of considerable magnitude every day. We cannot marvel that persons and firms occasionally fail to deserve the trust placed in their honesty and ability to pay; the wonder is rather that the paper system so generally and largely is used by private borrowers should so seldom cause loss to those who take it in the course of business. It is, again, not wonderful that defects should be discovered in the bankruptcy, the partnership, and other commercial laws of this country; the cause for surprise is that business can go on as it does without continual blocks and hitches, the mass of business men knowing and earning little for what the law is or ought to be, but looking to the good faith and "standing" of those whom they trust. The credit of a man, much less of a firm, is not a definite and unchanging thing capable of being recorded for once and always; on the contrary, the business of buying and selling cannot go on without bringing profits to some and losses to others. A man of a given firm "is not the man he was ten years ago;" the firm itself loses its head by death or retirement, and the young blood life in it wants experience, or ballast, or money. Such changes have to be watched by those who trust or lend money to the house, whose constitution so incessantly varies. This watchfulness is the true basis of all good credit, and of most of the good business which is done in modern times. Probably at no time was this watchfulness more needed than at present. It is sometimes said in the City that the father, the ex-partner of a typical firm, gave £1000 per annum; the present head pays his way; the son, and future head of the house, spends 1,000 a year too much. Such things have doubtless been said for every generation; and the best check upon rash over-spending lies in the hands of the bankers and others who are called upon to take the bill of inexperience traders. Abroad the state of credit is not so refined as here. We see more of the machinery at work. For instance, apart from the strict rules of law there is no use for the keeping of books, trade customs favour a system of guarantees which it would be taken as an insult to good firms in England to hint at. For example, in concerning goods to a customer, a Continental merchant will sometimes pay a commission to some banking or other house to guarantee the payment. The custom seems to be extending for we hear of it in branches of Eastern trade, and it manifestly has its advantages, especially in dealings between parties at a distance from each other. At the same time the guaranteeing banker has to keep a sharp watch on the conduct and credit of the firm or person guaranteed. It is impossible altogether to escape the personal element in credit, and in England the necessity of looking after persons is well recognised.

In some degree private credit has been superseded by what may be called public advertisement in the form of a published balance-sheet and a quotation on the share list of joint-stock companies, but the personal skill and standing of the directors and the personal of the shareholders also go for much. Take, for example, a joint-stock bank. A few years ago, after the Glasgow Bank panic, it was impossible to deny that the credit of the first-class banks was weakened. Many of those whose acceptance were largely in the market had, or thought it advisable, to withdraw their paper, and to accept less freely. At the same time, the character of the shareholders on the lists of joint-stock banks (which are published from time to time in the *Gazette*) was scrutinised. It came out that small tradesmen, domestic servants, professional men, and others of the small investor class, formed a large part of the proprietary of some of the banks. Solid men had taken fright at the appalling liability which might fall, and had fallen in this way, upon the shoulders of the solvent shareholders in a joint-stock bank with unlimited liability. No doubt the time of caution and questioning then passed through had a very salutary effect. One of these was an Act empowering banks to deny the identity of the shareholders, thus buying that class; and not much as a note

solid class of shareholders was attracted into banking property, the lists of proprietors so improved that the credit of our great joint-stock banks, "limited" as high as before, which is to say that it is as good as credit can possibly be. The joint-stock system grows beside the personal system of credit in another form. Say a new railway is to be built. The railway is for a time represented by a syndicate of financiers who address a contract or tender; they request him to supply rails or rolling stock or material for stations, and offer him in exchange, not cash, but bonds of the joint-stock railway company. A contractor would perhaps prefer dealing on other terms, but if he be hungry for employment he will consider the prospects of the company for one thing, but the personal character of the syndicate probably more than anything else. In business too, whether with joint-stock bodies or with private houses, personal credit and standing do not mean simple solvency. With some firms square and reputable dealing is a tradition; and a consign-ment of goods to them would never be the subject of vexatious quibbling in case of accident or unavoidable delay; there would be no questionable claims for alleged damage, little risk of the return of unsold goods at the end of a season on plausible pretences, or similar evasions of plain dealing. Similarly with joint-stock concerns, the character of the representative is an element. It would, for instance, be preferable to supply the London and North Western Railway Company rather than a joint-stock company in the south-east of Europe, or in a South American State. There might be as little doubt of solvency in the one as in the other case, but the character of a Hungarian or Turkish official, a Peruvian or even Brazilian, not to mention types nearer home, is not likely to be as reliable as that of the director of a first-class English railway.

It is all but impossible to keep the element of personal standing out of business transactions. Perpetual attention to this point is needed; and the better the attention paid to it the higher is the reward to those who can keep the standing of individuals accurately posted up. There are no better salaries paid in the City than those obtained by well-informed bank managers; indeed, partnerships in wealthy financial houses are often the reward of services in this direction.

Sometimes there is evidence of confusion even in the discount market between the personal character of a borrowing party, and the collateral security he offers. If a secure, or solvent person, offers security it is as much open to suspicion as his mere promise to pay; but there will often be cases in which it is not advisable to break off all business communications with a suspected person. In such cases a bank will ask for "cover." Somewhat recently a case in point came up. A firm had obtained money from a bank on lending a bill of lading which related to goods lying in the docks. Surprisingly the goods were transferred by means of a counter-part of this bill of lading (as a rule three such documents are made out and signed, one being kept by the shipper, another sent by post and a third accompanying the goods). On the failure of the firm, the security lodged was found to be illusory. The Court of Appeal decided that the bank, with only one bill of lading, had no better claim on the goods than anybody who presented another of the set. Of course the bank ought to have given notice or otherwise made itself secure, but the incident shows how little trustworthy is security offered by one whose personal credit is not above suspicion.

Coming back to the methods, intricate and marvellous to the minutiae, by which the standing of thousands of firms is got at with a celerity in the money market, there can be no doubt that unnecessary obstacles in the way of getting information ought to be cleared away. We do not mean to insist on penal regulations for the due settling forth of partners which, if inkstone would doubtless be avoided; but why should not the withdrawal from a firm of a partner by death be made as public as his retirement? The contention that the executors of a deceased partner should be galled as alone representing his interest is reasonable. It would be very serviceable to bankers, of no injury to the firms affected, unless they wished to trade on the reputation of the deceased as a good man of business or as a wealthy member. A well known representative of

a great mercantile firm, referring to the best available records of the position and credit of business firms, has said: "I found there stated three persons as the partners all of whom had been dead at least six years," and this in reference to a house of which he himself was partner. Whether the deaths of these persons had never been published, or if so in an imperfect way, or how it was the matter was thus mis-stated does not appear. Had such important mercantile events been Gazetted, every one interested would have known and noted them. Such incidents at the same time show how necessary is diligent private inquiry by those who deal in credit. We must trust, for the sake of the continued solidity of our stupendous commercial fabric, that the activity of private inquiry will in no degree relax properly accorded credit to private traders being the keystone of the whole.

THE INTERESTS OF CREDITORS.

The interests of creditors, as a body, have always been most heedfully looked after by the Legislature. Throughout our law creditors are considered as having legal rights that must be carefully guarded. For this reason, both by the common and the statute law, conveyances, assignments, and gifts of property are made void if they can be shown to prejudice the position of the creditors of the person so acting. The theory that the general interests of a debtor's creditors, as a body, should prevail above all other things, is really the very basis of the law of bankruptcy, as it is also the ground upon which the complete publicity of bills of sale and the gazetting of dissolutions of partnership are made compulsory if the parties concerned are to be legally protected. We need not now consider the statute of Elizabeth by which all contracts and dealings in fraud of creditors are rendered void. But, by the way of illustrating the practical working of this important principle in the law of bankruptcy, we may briefly note what happened in the recent case of "*Heod v. Newby*," which has just been decided by the Court of Appeal. The case is, too, the more instructive and interesting because its facts are common enough, and because it shows the danger of certain sharp modes of procedure which are often adopted by individual creditors contrary to the true interests of the general body. The decision is further remarkable for being the very first occasion on which the point in question arose, although the Bankruptcy Act has now been over thirteen years in operation.

The creditor in this case had proceeded against his debtor by means of what is known as a debtor's summons, and which requires the debtor to pay the claim owing or be held to have committed an act of bankruptcy. The debtor could not comply with the summons, and so he became liable to be made a bankrupt upon the petition of his creditor, who, however did not adopt this course, but entered into an arrangement or compromise with the debtor and received from him a certain sum of money on account of his claim. So far all was well, and the astute creditor was doubtless quite satisfied with himself and the success of his legal proceedings although it is obvious he had in fact obtained a preference for himself to the prejudice of the general body. Unfortunately for his plans, however, the debtor was soon afterwards adjudicated a bankrupt upon the petition of another creditor, and a trustee duly appointed. When the trustee, acting in the interests of the creditors and for the estate, found out this payment by the debtor to one creditor shortly before the failure, he claimed to have the money refunded, on the ground that his title related back to the act of bankruptcy that had been committed by the debtor upon his not complying with the debtor's summons, and therefore that the subsequent payment and arrangement were void as being contrary to the interests of the general body. In answer to this claim the creditor said that his dealings with the debtor was a protected transaction under the Act, because it was a payment to him in good faith and for value before the adjudication, and without notice of an act of bankruptcy available for adjudication.

It is obvious that the legal point here was whether or not the

creditor, at the time he took the debtor's money towards his own particular debt, had notice of an act of bankruptcy within the meaning of the section. Now, as he had himself issued and proceeded upon the debtors summons, non-compliance with which actually formed the act of bankruptcy, it is hard to see how he could say he had no notice. It was argued, however, that this was not the sort of act of bankruptcy intended by the statute, because it was one upon which only the creditor issuing the summons could have petitioned for adjudication. This fine point was in the end overruled by the Court of Appeal, and the clear and common sense view of the matter was there maintained. The Lords Justices indeed said that any other ruling would have strange results, and would lead to great injustice. The practical effect of their decision was therefore that the creditor who had sought by his sharp practice to gain an individual advantage to the prejudice of the general body, had to pay the amount so obtained by him from the debtor and out of the estate. He has had, moreover, to pay some heavy law costs, which will make his attempt very expensive to himself, though it may serve as a useful warning to those who may be similarly situated. In fact, the procedure by way of debtor's summons in bankruptcy has been of late years far too frequently used by individual creditors to get undue preference for themselves. Its danger is now made manifest, for it is worse than useless to get paid a debt that has after all to be refunded, with the addition of heavy legal expenses.

The interests of creditors are really concerned throughout the whole law of bankruptcy, and if only creditors were more true to their own interests, as a body, the practice of bankruptcy would be in sounder and more satisfactory condition. We have often pointed out that it is not so much the Bankruptcy Act or Rules that are at fault as that creditors themselves will not use the means they possess. A good instance of this has recently been afforded by the complaint of a deputation and a speaker in Parliament, that trustees are often appointed and allowed to act in large estates without giving any security whatever for their solvency and *bona fides*. But whose fault is this? Simply the creditors', who at every first meeting have the power of resolving what security a trustee shall give, and even into what bank he shall pay all the money he receives on behalf of the estate. Yet they will not use this plain provision, and are now asking that the giving security should be made a rule of Court in all cases. They admit in effect that creditors, as a body, cannot be trusted to do the best for their own interests, and therefore that the power should be taken out of their hands and placed in the discretion of a public tribunal. This idea is, in fact, at the bottom of all recent proposals for the reform of the law of bankruptcy. It is, however, but a return to the old official system, which has so often been tried and found wanting. Yet, inasmuch as creditors cannot be persuaded to use the powers they possess for the mutual advantage of the general body, it may be that a court of law would do better than they do themselves in watching over their collective interests. *Warehouseman and Draper.*

THE PATENT BOOT AND SHOE LACE GRIP.

Messrs. Finlayson Bousfield and Co., shoe thread manufacturers, of Johnstone, near Glasgow, have just placed before the notice of the boot trade a patent boot and shoe lace grip. The little invention consists of a finely tempered steel spring, so shaped that when attached to a boot or shoe (by the ordinary eyeletting process) it will hold the lace firmly under any stress of wear. The trouble attending tying and untying is thus avoided, the lace having only to be caught in the spring which is almost an instantaneous process. It is a capital little invention and we prophesy it will command a large sale.

THE firemen were industriously trying to extinguish a blaze in a public-house the other night, when an impecunious Pat, who had been drinking "on tick," beseeching his friend the pipeman, said, "For the love of heaven, Thomas play on the shilate!"



The following List has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette" by G. F. REDFERN, Patent Agent, 4, South-street, Finsbury, London, and at Paris and Brussels.

APPLICATIONS FOR LETTERS PATENT:—

- No. 3288. W. R. Lake—a communication from F. L. Veerkamp, C. F. Leopold, and W. Darker, all of Philadelphia, Pennsylvania, United States, Machinists, for improvements in braiding machines. Dated July 11, 1882.
- „ 3299. H. T. Harvey, of 2, St. Anne's-terrace, St. Anne's-hill, Wandsworth, London, for improvements in securing globes to their galleries. Dated July 12, 1882.
- „ 3300. H. Richardson, of Liverpool, for improvements in and relating to the poles and nets for lawn-tennis, cricket, and other games, and the means of holding, straining, coiling, and fixing the same. Dated July 12, 1882.
- „ 3313. L. Field, of Birmingham, Cabinet Maker, for improvements in folding chairs. Dated July 12, 1882.
- „ 3324. C. Portway, of the firm of C. Portway and Son, of the Tortoise Stove Works, Halstead, Essex, for improvements in gas stoves. Dated July 13, 1882.
- „ 3325. A. C. Henderson—a communication from E. F. Boyer, of 2, Boulevard de Strasbourg, Paris, for improvements in folding bedsteads with flexible and elastic sacking. Dated July 13, 1882.
- „ 3326. F. Beauchamp, of Edmonton, Middlesex, for improvements in tricycles, velocipedes, and other such like vehicles. Dated July 13, 1882.
- „ 3328. C. W. Siemens, of 12, Queen Anne's-gate, Westminster, London, for improvements in lamps. Dated July 13, 1882.
- „ 3346. W. R. Lake—a communication from W. H. Alden, of Boston, Massachusetts, United States, for improvements in sewing machines, chiefly designed for the manufacture of boots and shoes. Dated July 14, 1882.
- „ 3357. F. E. A. Büsche, of Schwelm, Westphalia, Germany, Manufacturer, for improvements in machinery or apparatus for the manufacture of lace and other like ornamental fabrics, applicable also to the manufacture of ornamental or plain braids. Dated July 14, 1882.
- „ 3363. C. E. Gibson, of the firm of Gibson and Birch, of Birmingham, for improvements in hood joints of perambulators, applicable to other purposes. Dated July 15, 1882.
- „ 3376. A. J. Altman, of St. Botolph's, London, for improvements in the manufacture of lawn-tennis racquets. Dated July 15, 1882.
- „ 3377. T. Swallowood, and E. W. Cooper, both of Coventry, Machinist, for certain improvements relating to velocipedes and in part applicable to other wheeled vehicles. Dated July 17, 1882.
- „ 3379. J. Forbes, of New York, United States, Bookkeeper, for improvements in sewing machines and in the process of hem-stitching by machinery. Dated July 17, 1882.
- No. 3381. W. H. Beck—a communication from D. P. Contamine, Clock Maker, and Jeweller, Chez Messieurs Blétry Frères, 2, Boulevard de Strasbourg, Paris, for a new or improved apparatus for extracting the shuttles from sewing machines. Dated July 17, 1882.
- „ 3386. L. A. Groth—a communication from F. Praunegger, of Graz, Austria, for a new or improved combination pocket knife, fork, and spoon. Dated July 17, 1882.
- „ 3400. J. Aylward, of Birmingham, Manufacturer, for improvements in perambulators and in perambulator and other wheels having metal spokes, part of such latter improvements being applicable also to wheels generally. Dated July 18, 1882.
- „ 3442. A. C. Wells and R. Wallwork, both of Manchester, Engineers, for improvements in gas fittings. Dated July 20, 1882.
- „ 3459. A. Dix and T. H. Dix, both of Rock Ferry, Cheshire, for improvements in apparatus for checking cords of blinds and other like articles required to be pulled up and let down. Dated July 20, 1882.
- „ 3461. J. Shanks, of Barnhead, Renfrewshire, North Britain, for improvements in and connected with the valvular details of domestic apparatus for the supply and economical use of water. Dated July 21, 1882.
- „ 3471. H. Fielding, trading as H. Fielding and Son, of Birmingham, Manufacturer, for improvements in knives and forks, and in the manufacture of knives and forks. Dated July 21, 1882.
- „ 3486. J. Leather, of Liverpool, Merchant, for improvements in ventilating appliances. Dated July 22, 1882.
- „ 3503. R. H. Holman, Master of Grantham Workhouse, and W. C. Draper, both of Grantham, Lincolnshire, for improvements in hammocks. Dated July 22, 1882.
- „ 3513. S. Bidwell, of Mitre-court-buildings, Temple, London, Squire, for improvements in telephones. Dated July 25, 1882.
- „ 3523. D. Thompson, W. H. Thompson and W. J. Booser, all of Queen-square, Leeds, Yorkshire, for improvements in regenerative gas burners for heating purposes. Dated July 25, 1882.
- „ 3535. J. Hewitson and W. J. Napier, both of Liverpool, for improvements in sewing needles. Dated July 25, 1882.
- „ 3542. B. Davies, of Adlington, and J. Eckersley, of Blackrod, both in Lancashire, for improvements in the construction of machines for washing and rinsing fabrics. Dated July 26, 1882.
- „ 3554. J. L. Thomasson, of Worcester, Engineer, for improvements in ventilators. Dated July 26, 1882.
- „ 3558. J. S. Orton, of Birmingham, for improvements in velocipedes. Dated July 27, 1882.
- „ 3565. H. Morris, of Manchester, Gentleman, for improvements in apparatus for adjusting ventilators, and for indicating the state of the temperature in any given place at a distance from such place, applicable also to other purposes. Dated July 27, 1882.
- „ 3584. W. A. Waddington, of Stonegate, Yorkshire, Pianoforte Manufacturer, for producing in pianofortes a more durable and better quality of tone. Dated July 28, 1882.
- „ 3597. O. Seydel, of Birmingham, Merchant and Manufacturer, for improvements in awnings for hammocks, cots, and couches, and in fixing or supporting awnings to hammocks, cots, and couches. Dated July 29, 1882.

- No. 3599. J. Darling, of Glasgow, North Britain, for improvements in sewing machine needles and in a new and improved needle threading device. Dated July 29, 1882.
- „ 3600. J. P. Dalby, of Leeds, Yorkshire, for improvements in tricycles, bicycles, and other similar vehicles. Dated July 29, 1882.
- „ 3613. A. C. Henderson—a communication from the firm of Besson and Company, Manufacturers of Heating and Smoke Consuming Appliances, of 2, Boulevard de Strasbourg, Paris, for improvements in stoves for heating by a combination of hot air and water. Dated July 31, 1882.
- „ 3623. H. W. Hayden, of Waterbury, Connecticut, United States, for improvements in lamp burners. Dated July 31, 1882.
- „ 3657. W. R. Lake—a communication from F. H. Chilton, of New York, United States, for improvements in embroidery apparatus for sewing machines. Dated August 1, 1882.
- „ 3660. P. Ehrlich, of Gohlis, near Leipsic, Saxony, Germany, for improvements in mechanical musical instruments. Dated August 2, 1882.
- „ 3682. T. Green, of Smithfield Iron Works, Leeds, Yorkshire, for improvements in grass edge clippers. Dated August 2, 1882.
- „ 3669. J. Harrison, of Birmingham, Machinist, for improvements in bells for bicycles, tricycles, and similar machines. Dated August 3, 1882.
- „ 3706. L. Küstner, of Hamburg, Germany, Music Master, for improvements in combination harmoniums with pianos. Dated August 4, 1882.
- „ 3729. A. J. Boulton—a communication from N. O. Bond, of Fairfax-court House, Virginia, United States, for improvements in wash stands. Dated August 5, 1882.
- „ 3730. J. G. Horsey, and T. Bell, both of Copperfield-road, Mile End, London, for improved appliances or apparatus for regulating and determining the speed of bicycles and tricycles by the rider when mounted. Dated August 5, 1882.
- „ 3742. J. T. Townsend, of Coventry, Bicycle and Tricycle Manufacturer, for improvements in that class of tricycles known as 'convertible sociables.' Dated August 5, 1882.
- „ 3763. J. J. Barrier and F. T. de Lavernède, Electricians, of 2, Boulevard de Strasbourg, Paris, for improvements in telephones. Dated August 8, 1882.
- „ 3768. H. Cullabine, of Sheffield, Yorkshire, Gasfitter, for improvements in lamps. Dated August 8, 1882.
- „ 3769. H. Gardner—a communication from R. M. Wanzer, of Hamilton, Ontario, Canada, for improvements in the details of sewing machines. Dated August 8, 1882.
- „ 3778. C. C. Greenway, of Grafton, New South Wales, and temporarily of Streatham-hill, London, Clerk in Holy Orders, for an improved washing machine. Dated August 8, 1882.
- „ 3781. C. Crozat, of Paris, France, but temporarily of Richmond-road, Earl's Court, London, for improvements in velocipedes. Dated August 9, 1882.
- „ 3782. J. Beale, of 10, Vanbrugh-park-road West, Blackheath, London, Engineer, for improvements in bicycles. Dated August 9, 1882.
- „ 3788. J. Inray—a communication from Messieurs Grimme, Natalis, and Co., of Brunswick, Germany, for improvements in apparatus applicable to sewing machines for button-hole and overhead stitching. Dated August 9, 1882.

- No. 3796. W. J. Hinde, of 31, Oseney-crescent, Camden-road, London, Manager of Cabinet Works, for improvements in apparatus for supporting and fixing swing looking glasses, swing ventilators, and other swinging articles. Dated August 9, 1882.
- „ 3808. S. P. Thompson, of University College, Bristol, Professor of Experimental Physics, for improvements in telephonic apparatus. Dated August 9, 1882.
- „ 3811. C. H. Southall, of Leeds, Yorkshire, for improvements in and apparatus for cleaning and polishing windows. Dated August 10, 1882.
- „ 3826. A. M. Clark—a communication from I. W. Lamb, of Marshallville, Michigan, United States, for improvements in knitting machines. Dated August 10, 1882.
- „ 3837. A. J. Boulton—a communication from J. Gontier, of Grenoble, France, for improvements in the construction or manufacture of brooms, brushes, and similar articles. Dated August 11, 1882.
- „ 3847. W. H. Bulpitt, trading as Bulpitt and Sons, of Birmingham, Lamp Manufacture and Tin Plate Worker, for improvements in lamps for collapsing or packing together into a small compass. Dated August 12, 1882.
- „ 3860. J. E. Walsh—a communication from J. Kayser, of Kaiserlautern, Palatinate of the Rhine, Germany, for improvements in shuttle sewing machines for button-hole sewing. Dated August 12, 1882.
- „ 3867. H. Podger, of Bromley, Kent, and W. H. Davey, of Highgate, London, for an improved ironing machine. Dated August 14, 1882.
- „ 3868. E. Smith, of Thurlow-hill, West Dulwich, London, for a folding and adjustable chair. Dated August 14, 1882.
- „ 3872. W. R. Lake—a communication from F. G. Johnson, of Brooklyn, and J. H. Hayward, of Northfield, both in New York, United States, Gentlemen for improvements in adjustable or folding chairs, also designed to form other articles of furniture, and to serve as life buoys. Dated August 14, 1882. (Complete Specification.)

Letters Patent have been issued for the following:—

- No. 376. C. D. Abel—a communication from C. Donadoni and Pohl, of Berlin, Germany, for improvements in piano-organs. Dated January 25, 1882.
- „ 445. J. Jaffrey, of Manchester, for improvements in domestic fire-grates and stoves and fittings connected therewith. Dated January 28, 1882.
- „ 503. H. Salsbury, of 125 and 126, Long Acre, London, Lamp Manufacturer, for improvements in suspension lamps for bicycles, tricycles and like vehicles. Dated February 1, 1882.
- „ 537. B. Verity, of the firm of Verity Brothers, of Saint Pancras, London, for an improved burner for gas fires. Dated February 3, 1882.
- „ 562. E. R. Settle, of Coventry, Velocipede Manufacturer, for improvements in velocipedes. Dated February 6, 1882.
- „ 583. B. Roberts, Mechanic, in the employment of Messieurs J. Devey and Son, of Wolverhampton, Bicycle and Tricycle Manufacturers, for improvements in tricycles. Dated February 7, 1882.
- „ 594. H. L. Wilson and J. Clegg, both of Clayton-le-Moors Accrington, Lancashire, Washing and Wringing Machine Makers, for improvements in machines for washing, wringing and mangling fabrics. Dated February 7, 1882.

- No. 600. J. G. Smith, of Eccles, Lancashire, for improvements in the construction of tricycles or other similar machines. Dated February 8, 1882.
- „ 720. C. D. Abel—a communication from W. Lorenz, of Vienna, for improvements in ovens for baking or cooking. Dated February 14, 1882.
- „ 722. J. W. Randall, of Chatham, Kent, Cabinet Maker and Upholsterer, for an improved combined article of furniture for use as a night commode and cupboard. Dated February 14, 1882.
- „ 746. T. Fitz Gerald Wintour, of Bloomsbury, London, for improvements in the construction of ventilating apparatus. Dated February 16, 1882.
- „ 755. R. Weaver, of 406, Clapham-road, London, Civil Engineer, for improved means or appliances for water-closets, sanitary and other purposes. Dated February 16, 1882.
- „ 779. E. Outram, of Greetland, Yorkshire, for improvements in pianofortes, and in the means of stringing, regulating, and controlling the pitch or tone thereof. Dated February 17, 1882.
- „ 786. J. M. Lamb, of 119, Finchley-road, South Hampstead, London, for improvements in ventilators and chimney cowl. Dated February 18, 1882.
- „ 799. J. B. Hamilton, of Greenwich, London, for improvements in organs, harmoniums, and like instruments. Dated February 18, 1882.
- „ 826. A. C. Adams, Bleacher, Dyer, and Cloth Finisher, and D. Stewart, Engineer, both of Glasgow, North Britain, for improvements in machinery for scouring, milling, fulling, washing, and wringing woven fabrics. Dated February 21, 1882.
- „ 841. J. W. Watts, of Countesthorpe, Leicestershire, Hosiery Manufacturer's Manager, for improvements in circular knitting machines. Dated February 21, 1882.
- „ 845. C. Edwards, of Birmingham, Saddler, for improvements in the seats or saddles of bicycles and other velocipedes. Dated February 31, 1882.
- „ 888. H. Sutcliffe, of the firm of Wright, Sutcliffe, and Son, of Halifax, Yorkshire, Brassfounders and Finishers and Sanitary Engineers, for improvements in the manufacture of apparatus connected with water-closets, and in appliances used in such manufacture. Dated February 23, 1882.
- „ 889. J. C. Mewburn—a communication from J. E. Boyle, Engineer, of Brooklyn, and H. Huber, Manufacturer of Plumbers' Supplies, of New York, both in the United States, for improvements in water-closets and water supply apparatus therefor. Dated February 23, 1882.
- „ 914. S. S. Hellyer, of the firm of Dent and Hellyer, New-castle-street, Strand, London, Engineer, for improvement in water-closets, urinals, and slop sinks or slop closets. Dated February 25, 1882.
- „ 918. H. J. Haddan—a communication from P. Mihan, of Massachusetts, United States, for improvements in ventilators. Dated February 25, 1882.
- „ 925. W. H. Lascelles, of Bunhill-row, London, for improvements in earth closets. Dated February 25, 1882.
- „ 1092. T. Priestly, of Bradford, Yorkshire, Stuff Manufacturer, for improvements in machinery and apparatus employed in knitting machines. Dated March 7, 1882.
- „ 1241. J. G. Horsey, of Copperfield-road, Mile End, London, Brush Manufacturer, for improvements in machinery for manufacturing brooms and brushes. Dated March 14, 1882.
- No. 1262. R. Mackie, Manufacturer, of Stewarton, Ayrshire, North Britain, and W. Start, and H. Scattergood, Machinists, both of Nottingham, for improvements in the manufacture of knitted fabrics and in machinery therefor. Dated March 15, 1882.
- „ 1269. G. Wilde, of Selston, Nottinghamshire, Butcher, for improvements in fitting or fixing the tuning pins or pegs of pianofortes and other stringed musical instruments. Dated March 16, 1882.
- „ 1348. T. Thorp, of Whitefield, Lancashire, Architect, for improved apparatus for gas lighting and heating. Dated March 20, 1882.
- „ 1673. H. Barratt, of Nottingham, Overlooker, in the employment of the Nottingham Manufacturing Company, Limited, of Nottingham, for improvements in circular knitting machinery. Dated April 6, 1882.
- „ 1902. W. Selley, of Manchester, for improvements in ash guards for domestic fire places. Dated April 21, 1882.
- „ 2145. A. Black, of Paisley, Renfrewshire, North Britain, for improvements in cabinets or cases for containing assortments of spools or bobbins of thread, and in arrangements whereby the withdrawal of such spools or bobbins is facilitated. Dated May 6, 1882.
- „ 2168. G. Macanlay-Cruikshank—a communication from H. C. Rice, of Louisiana, Missouri, United States, Manufacturer of Tin-ware, for improvements in filters. Dated May 9, 1882.
- „ 2177. P. Spence, and F. M. Spence, of Manchester, Manufacturing Chemists, for improvements in the purification of water for domestic use, and for manufacturing and other purposes. Dated May 9, 1882.
- „ 2216. T. C. Summers, a retired Engineer, Royal Navy, of 6, Claremont-terrace, Queen's-road, Portsea, Hampshire, for improvements in the supply of water to water closets, and the regulation thereof, as well as the efficient flushing of the pans, basins, or troughs thereof automatically. Dated May 11, 1882.
- „ 2352. J. Preston, of 28, Armagh-road, Stratford-le-Bow, London, Perambulator Maker, for improvements in perambulators. Dated May 18, 1882.
- „ 2390. A. A. Fisher, of San Francisco, California, United States, Gentleman, for improvements in sewing machines. Dated May 22, 1882.
- „ 2412. T. Green, of the Smithfield Iron Works, Leeds, Yorkshire, for improvements in apparatus for marking ground for lawn tennis and for other purposes. Dated May 22, 1882.
- „ 2596. W. C. Dyer, of Weston-super-Mare, Somersetshire, for improved means of connecting organ pedals with the keys of pianofortes or other similar keyed instruments. Dated June 1, 1882.
- „ 2675. H. Alabaster, of South Croydon, T. E. Gatehouse, of Camberwell, both in London, and H. R. Kempe, of Barnet, Middlesex, for improvements in telephone. Dated June 7, 1882.
- „ 2757. J. Imray—a communication from C. Clamond, of Paris, for improvements in gas-burners. Dated June 12, 1882.

PATENTS WHICH HAVE BECOME VOID:—

- No. 2677. P. Jensen—a communication from A. E. Lundberg, of Stockholm, Sweden, Engineer, for a new or improved apparatus for trimming the ends of candles to make them fit in the socket of a candlestick. Dated July 2, 1879.

- No. 2679. F. Sagar, of Burnley, Lancashire, Machine Maker, for improvements in looms for weaving. Dated July 2, 1879.
- „ 2714. W. P. Thompson—a communication from Messieurs. J. Meresse and P. Rondepiere, both of 5, Rue de Chateau d'un, Paris, for improvements in foot-warmers and other heaters, applicable for use on railways, in carriages, apartments, and other situations where foot warmers, chafing dishes, and the like are useful, and in the conversion of those at present in use. Dated July 4, 1879.
- „ 2716. H. Payan, of 10, Rue de Lancry, Paris, Jeweller, for improvements in buttons. Dated July 4, 1879.
- „ 2725. J. Cayard, of the firm of Cayard and Company, of Hebden-bridge, Yorkshire, Silk Spinner, for improvements in the manufacture of yarn. Dated July 4, 1879.
- „ 2734. W. R. Lake—a communication from A. Lacotte, of Paris, for an improved apparatus to be placed on a candle to catch or collect any melted material escaping from the top of the same. Dated July 4, 1879.
- „ 2741. H. J. Haddan—a communication from J. Schmitt, of Coblenz on the Rhine, Germany, for improvements in knitting machinery. Dated July 5, 1879.
- „ 2754. J. Magill, of Manchester, Engineer, for improvements in sewing machines. Dated July 7, 1879.
- „ 2756. F. J. Harrison, of Queen Victoria-street, London, for improvements in gas burners for increasing the illuminating power of gas. Dated July 7, 1879.
- „ 2777. T. P. Frost, of Oxtou, Chester, Manufacturer, for improvements in spring or elastic bottoms for beds, berths, couches, and other appliances for sitting or reclining upon. Dated July 8, 1879.
- „ 2822. W. R. Lake—a communication from Daniel Rousseau and Co., of Paris, Silk Manufacturers, for the manufacture of a new kind of thread and machinery or apparatus therefor. Dated July 10, 1879.
- „ 2837. W. R. Lake—a communication from F. M. l'Heron, of Paris, for improvements in wheelbarrows. Dated July 11, 1879.
- „ 2907. J. Robinson, of Oxford-street, Swansea, for improvements in pianofortes, American organs, and like reed instruments. Dated July 17, 1879.
- „ 2918. W. Warren, of Leigh, Lancashire, for improvements in the construction of cooking stoves. Dated July 17, 1879.
- „ 2920. J. Turner, of the Coventry Machinist Company, Coventry, and A. Dewey, of Holborn Viaduct, London, for improvements in the construction of velocipedes. Dated July 17, 1879.
- „ 2955. W. Dawes, of Kingston-grove, Leeds, Engineer, and W. H. Thompson, of Queen's-square, Leeds, Plumber, for improvements in water-closets, parts of which improvements are also applicable to other purposes. Dated July 21, 1879.
- „ 2957. H. J. Haddan—a communication from the Home Knitter Company, of Canton, Ohio, United States, for improvements in knitting machines. Dated July 21, 1879.
- „ 2971. E. F. Hughes—a communication from W. J. Fielding, of Hartford, Conn., United States, for improvements in spring beds. Dated July 22, 1879.
- „ 2991. J. Kiddier, and H. Kiddier, Machinists, both in the employment of the Nottingham Manufacturing Company, Limited, of Nottingham, for improvements in apparatus employed in the manufacture of ribbed looped fabrics. Dated July 23, 1879.

- No. 3015. J. Foot, of Eversholt-street, Camden Town, London, for improvements in scissors. Dated July 24, 1879.
- „ 3062. E. Kaulbach, C.E., of Gray's Inn-road, London, for improvements in the means of and apparatus for shaving. Dated July 28, 1879.
- „ 3086. F. W. Jones, of Dix's Fields, Exeter, for improvements in tricycles and bicycles. Dated July 30, 1879.
- „ 3101. A. Mèritte, of Rouen, France, Mechanician, for an improved movable stop for fastening folding doors. Dated July 30, 1879.
- „ 3151. A. M. Clark—a communication from A. Dormitzer, of New York, for improvements in safety window cleaning chairs. Dated August 5, 1879.
- „ 2753. J. M. Moody—a communication from J. Sutton, of Islip, United States, for improvements in cinder sifters, which improvements are also applicable for sifting or separating other substances. Dated August 4, 1875.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1d. each extra.

	1881.	s. d.
No. 5091. H. Defty, apparatus for generating heat from gas or oils, &c.	4	
„ 5131. J. Imray, apparatus applicable to sewing machines for overcastings	6	
„ 5343. G. Browning, kiting, plaiting, or pleating machines	8	
„ 5351. T. Rowan, warming and ventilating, &c.	6	
„ 5401. W. P. Thompson, apparatus for use in cutting out garments... ..	4	
„ 5424. E. A. Rippingille, gas stoves... ..	8	
„ 5446. J. J. Royle, gas fittings, reading lamps, &c.	6	
„ 5459. E. M. Knight, knife cleaning machines, &c.	2	
„ 5480. W. R. Lake, embroidering apparatus for sewing machines... ..	8	
„ 5484. A. Lafargue, bicycle and tricycle velocipedes	2	
„ 5493. A. Helwig and J. Dewdney, apparatus for making button holes, &c... ..	6	
„ 5510. S. H. Barnett, castors for bedsteads, &c.	2	
„ 5514. W. P. Thompson, apparatus for driving tricycles, &c... ..	6	
„ 5517. J. Sotheott, smoking and reading chair	4	
„ 5545. J. Graham, Sang's overhead sewing machine	2	
„ 5571. A. M. Clark, manufacture of floor coverings	6	
„ 5581. N. Wilson, sewing machines... ..	2	
„ 5594. B. J. B. Mills, knitting machines or looms	6	
„ 5595. A. W. Lake, electric calls for telephones, &c.	6	
„ 5628. L. A. Groth, knitting machines	10	
„ 5635. F. S. Kendrick, lamps for velocipedes, &c... ..	2	
„ 5646. W. P. Thompson, mechanical musical instruments	6	
„ 5649. W. T. Sugg, gas burners, &c... ..	6	
„ 5653. J. Harrington, tricycles, &c... ..	2	
„ 5655. B. J. B. Mills, apparatus for heating water... ..	4	
„ 5671. M. Wagner, apparatus for teaching music	2	
„ 5682. J. White and J. Ashbury, velocipedes	8	
„ 5696. J. Wallis, apparatus for recording musical notes	6	
„ 5703. F. Brown, cooking stoves, &c.	8	
„ 5709. H. J. Haddan, skates	2	
„ 5714. J. H. Johnson, portable ovens for baking bread, &c.	6	
„ 5734. E. Wylam, candle shades	2	
„ 5735. T. Drake, hot water heating apparatus	6	
1882.		
„ 1. E. A. Lynde, table cutlery, &c.	2	
„ 52. A. W. Franklin, apparatus for playing the game of lawn tennis	2	
„ 76. J. H. Johnson, domestic fire places... ..	6	

No.	92.	F. C. Glaser, pianofortes	...	...	...	6
"	28.	W. Dawkes, tricycles, &c.	...	...	...	2
"	99.	M. D. Rucker, jun., velocipedes, &c.	...	...	...	6
"	114.	J. E. Richard, overstitching machines	...	...	...	4
"	115.	W. Birch, apparatus for washing, soaping, dyeing, &c.	...	...	...	6
"	116.	E. M. Knight, knife cleaning machines &c.	...	...	...	6
"	141.	E. W. Francis, bicycles	...	...	...	2
"	163.	H. J. Haddan, skates	...	...	...	2
"	180.	F. Siemens, gas burners and regulators	...	...	...	6
"	181.	G. Moss, velocipedes	...	...	...	2
"	184.	T. A. Richardson, gas burners, &c.	...	...	...	2
"	199.	J. F. Hoyne and G. B. Lovedee, stoves, lamps, &c.	...	...	...	2
"	207.	J. H. Miles, perambulators and bath chairs	...	...	...	8
"	415.	W. Hillman, velocipedes, &c.	...	...	...	6
"	711.	W. J. J. Robinson, lamps	...	...	...	2
"	996.	R. H. Brandon, machine for sewing flat buttons to fabrics, &c.	...	...	...	6

LIQUIDATION AND BANKRUPTCY NOTES.

Re WILSON AND HOSTER, Mechanical Engineers, 144, High Holborn, and 144, Cheapside.

The debtors, trading under the firm of Newton Wilson and Co., have presented a petition for liquidation, and on August 2, Mr. F. C. Willis, applied to the court for the appointment of Mr. Joseph Andrews, accountant, Ironmonger-lane, as receiver and manager of the estate; also for an injunction restraining various actions. The debts were returned at about £8,400, and the assets at £5,500. The application was supported by creditors, and the Registrar made the appointment and granted an injunction. Creditors, secured and unsecured:—

Messrs. Andrew and Mason, Ironmonger-lane, £112 10s.; G. Attiner, Hamburg, £17 7s. 6d.; E. P. Alexander, Southampton-buildings, £50; A. Aut, Birmingham, £5 16s. 9d.; Ashworth and Co., Wood-street, E.C., £5 12s. 6d.; H. Bell, York-road, £28; A. R. Bax, Streatham, £175; Billing and Co., High Holborn, £14 10s. 11d.; Capital and Counties' Bank, £213 7s. 6d.; Chandler and Co., Bermondsey, £8; C. Dumas, £28; Elliott and Sons, Little Queen-street, £6 15s.; Freeman and Winthrop, Bedford-row, £2,000; C. J. Fox, Whitefriars-street, £20; J. S. Green, Gresham-buildings, E.C., £101 17s. 6d.; J. Hannan, Gainsborough, £5; Hanover, Gurnie, Kamin and Co., £170; Heath and Sons, Redditch, £14 14s. 4d.; Henry Jones, Hulme, £1,020; F. Kingwell, Theobald's-road, W.C., £50; Kilner Brothers, King's-cross, £7 6s. 1d.; H. Loog, Limited, London-wall, £600; Letts Son and Co., Limited, £500; G. W. Munt, Cross-street, E.C., £11 5s.; M. Margetson, Cheapside, £156 5s.; J. McIntyre, Burslem, £5 7s. 2d.; —, Moring, High Holborn, £8 1s. 6d.; Nottingham Malleable Iron Company, £28 1s. 3d.; New York, Hamburger Gummie Waaren Co., Hamburg, £316; Patent Stopper Company, Birmingham, £6 1s. 2d.; L. Redier, Seine Inferieure, £193 10s. 11d.; Salberg Brothers and Co., Aldermanbury, £15 18s. 6d.; J. Silberberg and Co., Hamburg, £274 12s. 1d.; Staffordshire Bank, £17 3s. 6d.; F. Simmonds, Garden-row, S.E., £48 15s.; Swift and Co., Newton-street, W.C., £18 12s. 6d.; —, Weir, Upper Frognaal, Hampstead, £120; J. M. Wilson, Finsbury-pavement, £1,500; S. Welsh, Norwich, £92 10s.; Warne and Co., Gresham-street, E.C., £7 2s. 11d.

SYDNEY SMITH said: "According to my computation, I have eaten and drunk between my tenth and seventieth year forty four-horse waggon loads more than was good for me.

A MAN started in the livery stable business last week, and the first thing he did was to have a big sign painted representing himself holding a mule by the bridle. "Is that a good likeness of me?" he asked of an admiring friend. "Yes, it is a perfect picture of you, but who is the fellow holding you by the bridle?"

THE SEWING MACHINE TRADE IN MELBOURNE.

From the *Australian Trade Review Bill of Entry* (published by authority). We direct the following relating to sewing machines.

Imports for the four weeks ending 24th June, 1882.

No.	SEWING MACHINES.	£
54	U.K. Maek and Ellis	100
830	" Singer Manufacturing Company...	2046
190	" Storer, Jos.	380
1047	" Wertheim, H.	4497
30	" Williams, W.	102
509	Antwerp, Wertheim, H.	1948
12	Hamburg, Sundry Importers	35
50	cas U.S.A. Alexander and Co.	250
118	" " Rennie, Kemsley and Co.	768
18	Various Sundry Importers	86
		10,212

And the following list of EXPORTS during the same period, show that our Victorian Cousins are not idle.

No.	SEWING MACHINES.	£
43	N.S.W. Long and Co.	305
30 & Q.	Rennie, Kemsley and Co.	80
16	" Storer, Jos.	95
12	" Wertheim, H.	80
10	" Sundry shippers...	84
215	S.A. Singer Manufacturing Company	535
3	" Storer, Jos.	31
89	" Wertheim, H.	222
42	W.A.	114
6	" Sundry shippers...	33
14	Tas. Caro, J., and Co.	140
8	" Rennie, Kemsley and Co.	69
82	" Wertheim, H.	245
15	" Sundry shippers	87
3	N.Z. Gibson, G.	150
15	" Long and Co.	84
21	" Singer Manufacturing Company	150
11	" Rennie, Kemsley and Co.	128
512	" Wertheim, H.	1552
4	" Sundry shippers	32
1151		4216

A WELCOME.

A whiff of the summer has come at last,
And the sun shines out in a sky of blue,
The winds are light. To the biting blast
Let's hope we have bidden a long adieu.
There's a mellow light upon tree and grass,
So hip, hip, hurrah or the rising glass!

There's a smile to-day on the farmer's face,
As he looks with glee on the ripening grain,
And the wavering tourist takes heart of grace,
As he flounders in Bradshaw to find a train.
Messieurs les voyageurs, prenez vos places!
And hip, hip, hurrah for the rising glass!

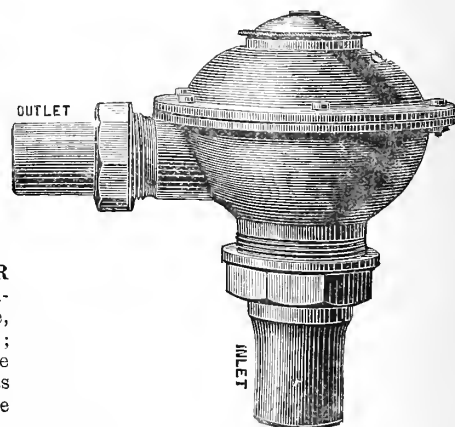
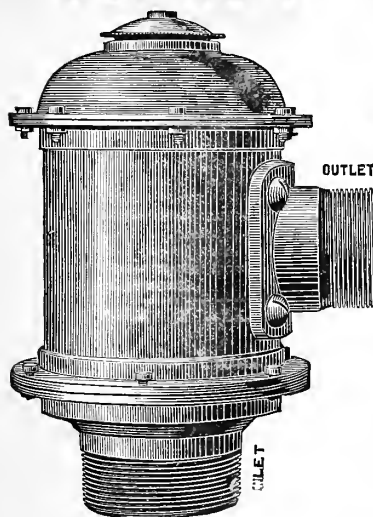
Out of the byways and filthy streets
Crowds of white-faced little ones run—
This is the month of the children's treats,
And the rain has ruined full many a one
It's little of sun that they see, alas!—
So hip, hip, hurrah for the rising glass.

G. R. SIMS.

"WHAT is this man charged with?" asked the judge. "With whisky, yer honor," replied the sententious policeman.

DEVINE'S PATENT GAS REGULATOR.

PREVENTS
ALL
WASTE
IN
GAS.



DEVINE'S REGULATOR not only saves, but Regulates Gas. It is Simple, Durable, and Perfect in action; contains no fluid and therefore cannot injure gas meters. Gas Companies prefer its principle to any other.

PRICE LIST.

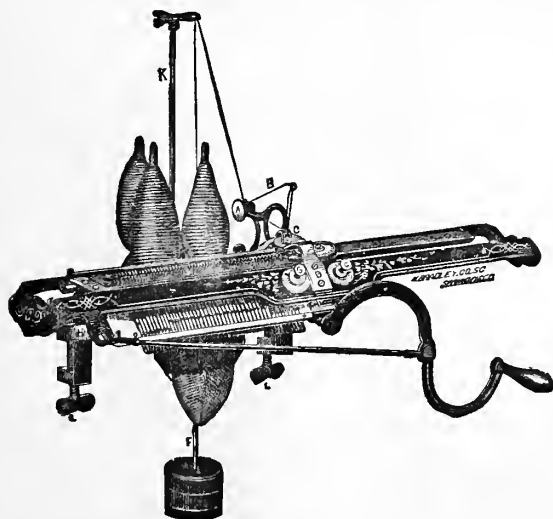
	£	s.	d.		£	s.	d.		
For 5 light Meter, with $\frac{1}{2}$ in. bore pipe	...	1	0	0	For 30 light Meter, with $1\frac{1}{4}$ in. bore pipe	...	3	2	0
„ 10 „ „ „ $\frac{3}{4}$ in. „	...	1	10	0	„ 50 „ „ „ $1\frac{1}{2}$ in. „	...	4	4	0
„ 20 „ „ „ 1 in. „	...	2	2	0	„ 80 or 100 light Meter, with 2 in. bore pipe	7	7	0	

For further particulars apply to—

HENRY HARRISON,

Head Depot :—1, ST. SWITHIN'S LANE, E.C.

THE GENUINE "LAMB" ORIGINAL KNITTING MACHINE.



"LAMB," Registered Trade Mark.

Knits Hosiery of all sizes and perfect shape without seams exactly like handknitting;—knits also the greatest variety of different Garments, Fancy Goods, &c., &c.

It is worked by hand,

Is constructed of best material, and in the highest style of workmanship.

Will last a lifetime

Delivered well packed complete, with Spooling Machine &c.

INSTRUCTION FREE.

PRICES.

From £13 13s. upwards.

Liberal discounts to Merchants and the Trade
Any size or gauge of machine built to order on special terms and arrangements.

For further particulars apply to

BIERNATZKI & Co.,

General Agents for Europe.

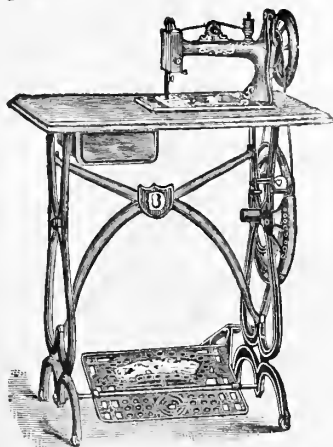
LONDON—10, Bull and Mouth Street, St. Martin's-le-Grand.

THE VERTICAL FEED SEWING MACHINE.

Beyond dispute, the only really Perfect Machine yet produced.

AWARDED THE
ONLY GOLD MEDALS
AT THE
**SYDNEY AND
MELBOURNE
EXHIBITIONS.**

In Competition with all the Leading Machines.



This Machine differs from all others in that the work is fed from above instead of from below, thus leaving a smooth surface for the work. Owing to the peculiarity of its Feed-motion, it will sew over an unevenness, and from the thinnest to the thickest material without change either of stitch or tension, and without any assistance from the operator. Every variety of work can be done without Tacking, thus effecting a great saving of time and trouble. With each machine is given, without extra charge, a most complete set of simple and useful attachments, by means of which the operation of Hemming, Braiding, Quilting, Ruffling, Tucking and Binding (so difficult to manage on any other machine), can be accomplished with astonishing ease and rapidity and in the greatest perfection of style. The Shuttle holds a large amount of thread, and the Bobbins are easily and evenly wound by means of an automatic Bobbin-winder which accompanies each machine.

Prospectuses, together with Samples of the work, and every information, may be obtained at the Offices of the Company,

52, QUEEN VICTORIA ST., E.C.
SOLE ADDRESS IN LONDON.

THOMAS WARWICK,

Manufacturer of Bicycle Materials of every description.

Sole Maker of WOOLLEY'S PATENT SPRING SADDLES

PRICES.

No. 1, with Flexible Sides	6/- each
2, with Plain Saddle	3/6 "
3, with Flexible Sides for Tricycles	7/6 "
4, do. do. with Roll at Back	10/6 "

These Saddles for 1882, have several very important improvements, and are acknowledged to be **the most comfortable seat** for Bicycle or Tricycle, that are in the market. They afford great ease to the rider when riding over rough and bad roads, and on long journeys. The Seat is soft, and the edges being flexible, they give to the weight of the rider, and do not chafe the same as hard edges of ordinary saddles.

All kinds of Stampings, Rims, Spokes, Backbones, Hollow Forks, Hubs, Bearings, Pedals, Springs, Lubricators, Oil Cans, Saddles and Bags, Bells, Lamps, and all parts finished, and in the rough.

Price Lists and Testimonials free from the Works,

**ALMA ST. ASTON NEW TOWN,
BIRMINGHAM.**

FOR DISPOSAL.—In a thriving Midland Town, an Old Established Domestic MACHINE BUSINESS, in present Owners Hands over 10 years; a good steady trade done; repairs can be made to pay rent; a good opening for a practical man, or as a Branch Dépôt. Satisfactory reason for the change. Apply B.H.R., care of this Paper.

JOURNAL OF DOMESTIC APPLIANCES

AND

Sewing Machine Gazette.



case of great importance to all who let out sewing machines and other articles on hire, has recently been decided at the Mansion House. The Plaintiff was a Mrs. Harriet Tavener, who brought an action against the Howe Machine Company, to recover a sewing machine which they retained. Mrs. Tavener said, that on March 18th, she attended a public auction at Westbourne-park, and bought a sewing machine for one pound. Finding it required repairing, she sent it to the Howe Machine Company, and they refused to give it up to her. So far as Mrs. Tavener was concerned she was no doubt hard done by, but as the evidence afterwards disclosed, the Howe Company had been even greater losers. When the machine came to

them for repairs, they found it was the one they had been in search of for sometime—one hired by a man named Goodwin, who had only paid a small portion of the deposit. They naturally claimed their own, refusing to give the machine up again, and contended, and we think rightly too, that they had never relinquished their right in the machine, and the mere fact of Goodman having illegally parted with it, did not make it none the less their property. The Alderman, who seemed altogether in a state of mental fog, decided against the company, ordering the machine to be given up on the payment of six shillings for repairs, remarking that there was no proof that Goodman ever purchased the machine. Of all the silly observations made from the Aldermanic Bench, that was one of the most foolish. The Howe Company never stated that Goodman had purchased the machine; indeed, if he had, the machine would never have been retained. It was let out on hire only, the Alderman could not see the difference. If a pawnbroker has to give up goods that are disposed of in an illegal manner, why should not the public. What is sauce for the goose is sauce for the gander.

OUR ILLUSTRATED SUPPLEMENT.

An excellent motor for working a sewing machine or any such small machine we illustrate this month. To say it is the best motor we have yet seen is not saying much, for all hitherto made have been failures. This one, however, is perfection itself, and does not possess a single failing. A full description will be found under the heading of "Domestic Appliance Exhibition," where we first saw it exhibited.

SEWING MACHINE NEWS.

Mr. TESTER, of Dr. Johnson's-passage, Bull-street, Birmingham, is now representing Messrs. Gritzner and Co., of Durlach.

IN another column will be found a description of the Griseom motor. We have seen a good many motors, but none have been what this is—a success.

THE JOHNSTONE RUFFLER COMPANY invite the English trade to try their specialities. This Company is well-known in America, and its manufacturers have an immense sale in the land of the star and stripes. Full particulars as to prices will be found in our advertising columns.

WE call the attention of the trade to an old establish domestic machinery business for sale, which is advertised in this issue.

MESSRS. GRITZNER AND CO., of Durlach, desire to know the address of a manufacturer of machines for sewing ostrich feathers. Can any of the trade inform them? We do not.

IT is reported that the renowned oil manufacturer, Wm. Nye, of Bedford, Mass., has contracted with the Emperor of China to arrange a nursery of whales.

MESSRS. NEWTON WILSON AND CO., have failed again. Particulars of the failure will be found elsewhere.

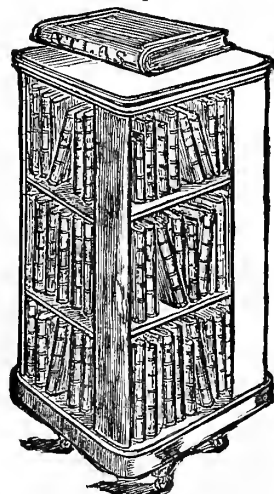
THE sewing machine trade of the past month taken as a whole has been quiet, doubtless owing to so many people being out of town. The shipping portion of it has shown most activity.

THE WILLIAMS SEWING MACHINE COMPANY, of Plattsburg, U.S.A., for which Mr. Tester, of Birmingham, is agent, have just completed their foundry. The new works can turn out a hundred machines a day.

WE hear that one firm through exhibiting at the Domestic Exhibition, have secured a very large export order. The hall is thronged at night and presents a very lively scene. It must be certainly about as cheap an advertisement as any the companies could have.

A REVOLVING BOOK STAND.

Gentlemen of literary pursuits, barristers, clergymen, solicitors, and many others will find this novel invention a great acquisition to their study. It is two feet square, four feet in height, and will hold on the four sides close upon two hundred volumes. It is

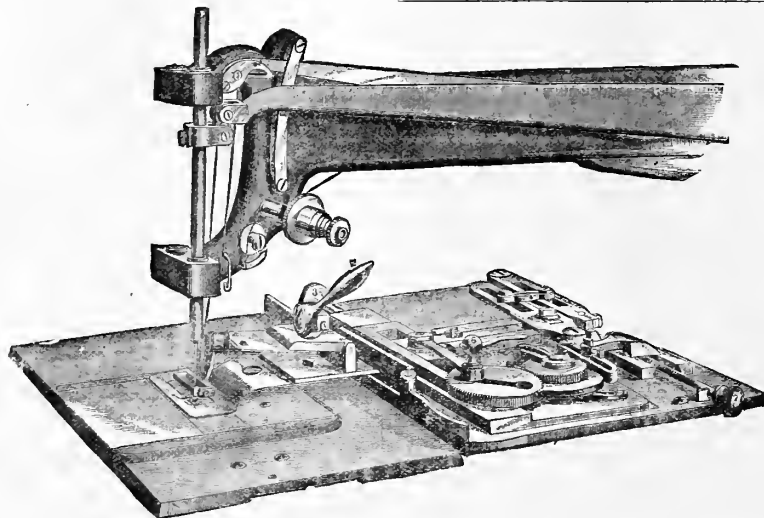


made in solid mahogany, oak or walnut, and is a handsome addition to a room. A person sitting in a chair can revolve the stand thus bringing to his hand as many as two hundred volumes without once leaving his seat. For full particulars we refer our readers to Messrs J. W. and M. Jarvis, 60, City-road, E.C.

RETENTION OF A SEWING MACHINE.—The Howe Sewing Machine Company was summoned at the Mansion House on the 4th ult. for detaining a sewing machine. Mr. Hare appeared for the prosecutrix; Mr. Harte for the company. Mrs. Harriet Tavener said that on March 18th she attended a public auction at 72, Westbourne-park, Notting Hill, where she purchased a machine. She made several bids for it, and finally it was knocked down to her for 20s. Finding it required repairing she sent to the makers, the Howe Sewing Machine Company. A traveller called and examined the machine, and said the cost of repair would be 6s. It was taken away, but the defendant company refused to give it up. Mr. Harte contended that the title had never left the defendants, and therefore they had a perfect right to keep the machine when it came into their possession. In September, 1879, the machine was hired to a man named Goodman, who was to pay 2s. 6d. a-week till he completed the purchase. He had, however, paid only £1 13s. There was £4 13s. due on it, therefore it was retained. Mr. Harte quoted several cases to show that the company were entitled to do what they had done. The Alderman said he should give judgment for the complainant. There had been no proof that Goodman had ever purchased, but were this so, that was in 1879, and since then the title may have passed through several hands. He should direct that the sewing machine should be given up on payment of the 6s. for repairs.

THE NATIONAL AUTOMATIC BUTTON HOLE MACHINE.

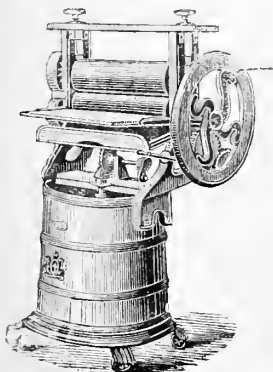
This machine is intended for the use of manufacturers of all garments in which straight buttonholes are required. The machine is perfectly simple in construction, and is so arranged that its working parts may be exposed when in operation, enabling the operator to speedily obtain a thorough knowledge of its mechanism. Its bearings are provided with either sliding blocks or steel gibs, by which all lost motion from wear can be instantly taken up, insuring perfect accuracy of work and durability of machine. It is entirely automatic, requiring consequently but little skill on the part of the operator, and insuring a very great quantity and perfect uniformity of work. The work of the machine which is a lock-stitch is uniform and durable, and the machine works equally well on all classes of



fabrics whether light or heavy. Mr. Charles Gimson, Dashwood House, 9, New Broad-street, is the English Agent for this machine, of whom all particulars can be obtained.

A GENTLEMAN somewhat advanced in life, and who was never remarkable for his good looks, asked his grandchild what he thought of him. The boy's parents were present. The youngster made no reply. "Well, why won't you tell me what you think of me?" "Cause I don't want to get licked," was the answer.

A CHICAGO man encountered a draped figure in his basement hall in the morning, and mistaking it for his wife's dressing maid, hugged it ardently for several seconds before he discovered that it was a deputy sheriff in an ulster overcoat.



HOLMES, PEARSON & MIDGLEY,

MANUFACTURERS OF

WASHING, WRINGING, AND MANGLING MACHINES,

Fruit Dresser, Sugar Cutter, Chaff Cutter,
MORTICING MACHINES AND CIRCULAR SAW BENCHES.

PRICE LIST ON APPLICATION.

Manufactory-Royal Ironworks, Halifax Road, Keighley.
London Office—5. New Street, Bishopsgate, E.C.

WITHOUT COMPETITION.

WHITE MINERAL OIL.

All those gentlemen who take an interest in the sale of our Never Freezing, Fine, Fatty Sewing Machine Oil,

"ADEPSINE"

Are requested to apply to the undersigned. This Oil never gets Rancid, is absolutely free from Resin and Acid, Clear as Water, Tasteless, and without smell.

ERSTE DUETSCHKE VIRGINIA-VASELINE-FABRIK,
CARL, HELFRISCH & Co.,
Offenbach-on-the-Main.

HIGHEST AWARDS—

London, 1881; Brighton, 1881; Darlington, 1882.

The Best and Cheapest CHUTNEY is

"THE FAVORITE,"

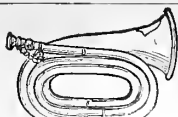
Price **SIXPENCE** per Bottle.

Manufactured by

J. EDMUNDS, 134, Pentonville Road,
LONDON, N.

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PRIZE MEDAL.

**THE BUGLET**

PRIZE MEDAL.

THE only Bugle ever made having 4 turns. *The Easiest, Best, Smallest, Cheapest, Strongest.* 6 inch by 2, oval, 4 Turns. Over 2000 now sold. Brass, 17/6; Copper, 18/6; Special Club, 20/-, 21/-; Nickel, 23/-, 26/-; Silver Plated, 30/-; Engraved 42/-; Prizes, 2 to 3 Gs.; Valves for Buglet, 27/6; 1 Turn Bugles, 3/-; 2 Turns 4/6; 3 Turns, 6/6; Oval, 6/6 to 8/6; New Model Round Bell, 9/6; Oval Bell, 2 Turns, 12/6; 3 Turns in 3, 14/6. Send for New Lists, Testimonials, 100 Illustrations. Agents' New Show Card.

The Largest Makers of Horns and Bugles in England.

HUNTING, STAG, DOG, COACH, MAIL, BEAUFORT, DRAG, TANDEM, POST SADDLE, WHIP, KOENIG, BICYCLE, TRICYCLE, &c., HORNS. Hunting Horns, ordinary, from 5/-; Superior Solid German and other Special Styles, from 10/-; Silver Mounts from 20/-; Sterling Silver from 31 Guineas; Mail Horns; ordinary German Silver Mounts and Mouthpiece, and solid wire on Bell, from 10/6; superior, 12-in. Ferrule, &c., from 15/-; Keat's Special, 31 Bell, Ribs; or Solid German Silver, from 20/-; Keat's Telescope, model, from 25/-; Cases, Baskets, Engraving, Inscriptions, Repairs, and all Fittings. Gratis with Purchase, "Instructions to Learn Bugles and Coach Horns, Four Pages, or Post Free, 2 Stamps.

THE BICYCLISTS CORNET, 7 by 4, from 3 Guineas. Also for all other Musical Instruments, to **HENRY KEAT & SONS** (Inventors of the Buglet), Manufacturers, Government Contractors, and Export Factors, 105, MATTHIAS ROAD LONDON, N.

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The Coventry 'Star,' 'Special,' and 'Champion' Bicycles & Tricycles.

Also Perambulators with Bicycle Wheels.

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BUTT-ENDED BICYCLE SPOKES

Can be supplied in all the various Gauges,



THE BUTT END BEING 3 SIZES THICKER THAN THE SPOKE.

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LISTS ON APPLICATION.

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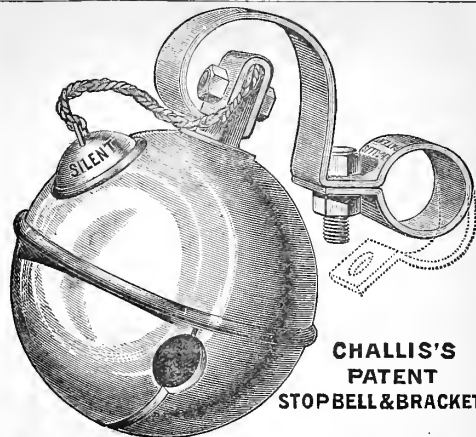
THE

"LEADER" BICYCLE or TRICYCLE

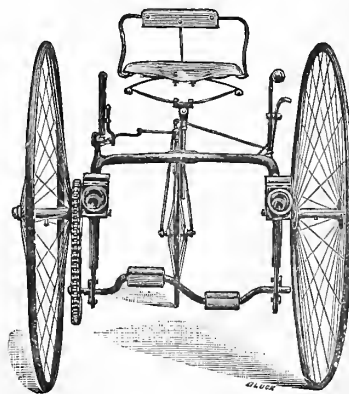
Stonbridge,
"The Leader Spring is a perfect luxury over the roads about here."
CONNOR WALKER.

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"Your Patent Leader Spring is very easy and comfortable, and the forward play obtained is a great help in mounting hills."
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Patentees and Manufacturers of
BICYCLE, TRICYCLE & SLEIGH BELLS

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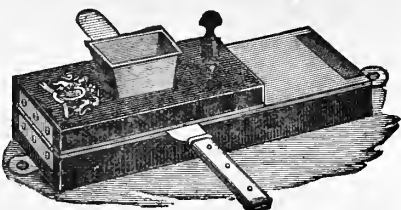
K. BUSHBERRY WORKS, HOMERTON, E.**THE "EXPRESS" TRICYCLE FOR 1882.**FOR A LADY OR
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LAMPS 10s. EXTRA.**The Cheapest Machine ever offered to the Public.
SPECIAL "EXPRESS" BICYCLE.**

This Machine is sent out COMPLETE, with Ball Bearings to both wheels, spanner, oil can, and patent alarm bell. Weight of a 50-inch, 40lbs

PRICES:—			
44-inch	£7 0 0	52-inch	£8 0 0
46 "	7 5 0	54 "	8 5 0
48 "	7 10 0	56 "	9 0 0
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Hollow Forks		10s. extra.	

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PRICE LIST FREE.

THE "REX" KNIFE CLEANER.

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An article of domestic utility, simple in construction, compact in form, effectual in operation. Has equal pressure on thick and thin side of knife. Does not wear the knife.

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Stained Deal, 2/6; with adjusting Screw, 3/-
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THE ENGLISH PATENT
OF A REAL IMPROVEMENT ON

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Please address for particulars—

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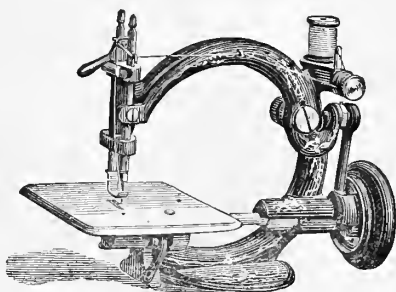
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Lathes from 31 inch upwards.

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Shuttles & Reels (about 100 species) Hooks
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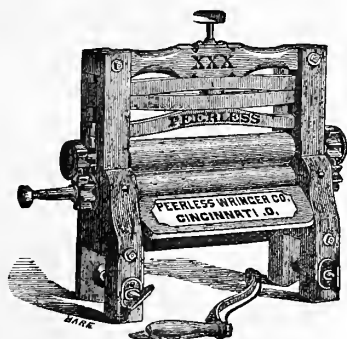
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Is the leading Wringer of America.

AWARDED
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Wherever it has competed.



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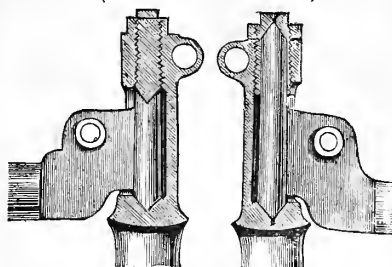
The best, the cheapest, the most substantial and
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**RECENT CONTESTS WON ON ANDREW'S MACHINES.**Aston, Birmingham.—"The Speedwell Challenge Cup" for 1
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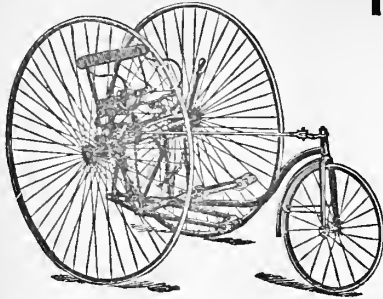
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Sole Manufacturers of ORTH'S Improved

REGISTERED PEELER.The handiest and cheapest in the market. Retail at 6d., and nickel
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NO. 2, PERFECTION. Jackson's Patent.
12 Miles an Hour Obtainable.



Especially suited to Ladies. Price £16.
Easy, Safe and Graceful.

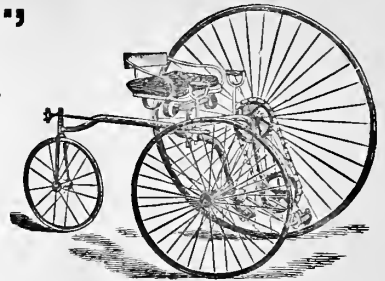
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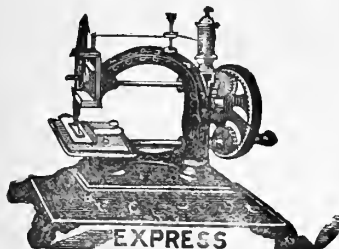
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By the Half-dozen, 27/- each.

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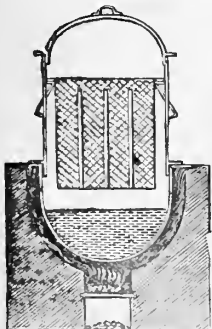
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" 2	" 18 in.	-	-	-	-	-	22s.6d.,
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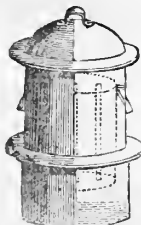
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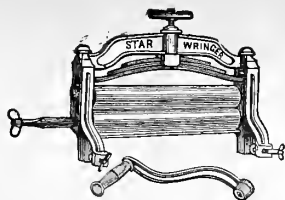
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No. 2.—Washer as fixed
on top of copper.



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This Wringer is of an entirely new and neat design, has a novel attachment whereby the Wringer can be fixed most firmly in a few moments to Washing Machines, or any Wash Tub, either round or square

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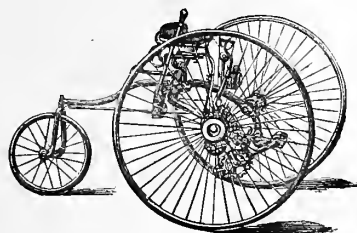
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Make, as a Special Article,

OIL CANS, with sharp turns for Sewing Machines, of zinc, of white iron plate, of brass, and with nickel in 30 different sorts. Also Oil Cans with squirting valve; and Oil Cans for pouring, for mechanical workshops, in the most various shapes and sizes. Screw Drivers with winged stock.

On request, Price Lists in the German, French, and English languages are sent free and gratis. The Manufactory is the largest and acknowledged as the best in Germany.

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Is the best hill climber ever known.

Its speed is greater than ever before attained.

It is propelled with greater ease than any other Tricycle.

Its brake power is ample, and easily applied.

When descending hills the rider is at perfect rest, and has the most absolute control of the machine.

It is free from complications, and not so liable to get out of order as other Tricycles

It is made of the best materials and workmanship.

It is very light, but strong and durable.

Its Seat and Handles are adjustable to riders of any size.

It will go through a passage, twenty inches wide.

It is very moderate in price.

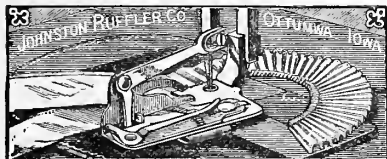
All who have tried it agree in saying it is simply perfect, and

HAS NO EQUAL.

Illustrated and descriptive Price Lists (also of their celebrated "Rapid" and "Dispatch" Bicycles on application to the Patentees and Manufacturers,

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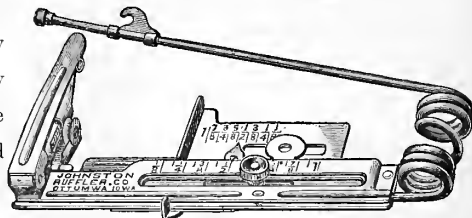


Indorsed and adopted by the Singer Manufacturing Company in the U.S.A., and all first-class sewing machine companies, as the best and most useful sewing machine attachment ever invented. No sewing machine is complete without one. Every Ruffler warranted.

For sale by all sewing machine agents.

THE NEW JOHNSTON TUCK-MARKER.

The Johnston Tuck-Marker has recently been improved by using a flat blued tempered Steel Spring to give the necessary elasticity. With this improvement, (1) no oil is used, (2) more uniform pressure is secured, (3) the wheel is rolled back and forth over the goods, thereby making a smooth crease.



All other Tuck-Markers leave the goods more or less drawn and indented where it is struck by the notch and blade. This Tucker is altogether in advance of anything heretofore placed upon the market. The mechanical workmanship on it is equal to that of a first-class sewing machine.

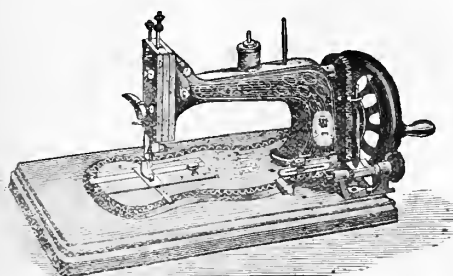
PRICES, DELIVERED IN LONDON:—

Rufflers, per gross ... £10 0 0 | Tuckers, per gross ... £4 5 0

Send orders to **JOHNSTON RUFFLER COMPANY, Ottumwa, Iowa, U.S.A.**

W. SELLERS & SONS, SEWING MACHINE MANUFACTURERS, AIREDALE WORKS, KEIGHLEY, ENGLAND.

ESTABLISHED 1854.



MANUFACTURERS OF THE
SHAMSTRESS (W. & W. Principle),
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AND
SMALL ARM ELASTIC MACHINES,
AND THE
World-renowned STITCHWELL FAMILY
and **MEDIUM MACHINES.**

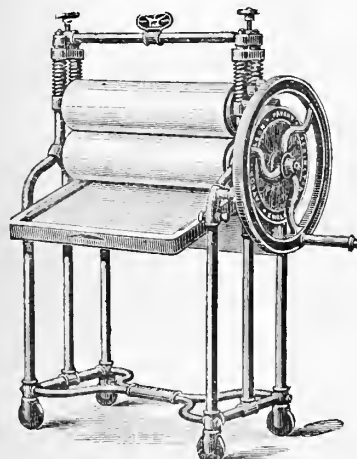
ALSO MANUFACTURERS OF THE

HAND STITCHWELL,

With Walnut or Iron Base, which is guaranteed to be UNSURPASSED by any Hand Sewing Machine in the Market.

THE "PHŒNIX" WRINGER AND MANGLE.

(This invention is protected by two separate patents, 1882.)



ADVANTAGES.

The driving gear in this machine is entirely a new invention, and is acknowledged by practical men of experience to be far ahead of anything yet produced for this purpose.

The power required is not more than one-half that is necessary to work any other Wringer or Mangling Machine, whilst the speed attained is fully one-third greater.

The pressure is obtained from four separate spiral springs of requisite power, they act with great ease and freedom, and the liability to fracture or breakage is reduced to a minimum.

The bearings for Roller Axes are all bored out, and are true and carefully fitted.

The mangle or drip Board works on swivels or pivots under the centre of bottom roller, and by means of our invention, can be instantly fixed to answer for either Wringer or Mangling.

The framework is constructed from malleable iron tubes connected at the requisite points by means of molten or cast metal. It is considerably lighter than the ordinary Wringer Machine, is much easier to move about, and may be practically termed indestructible.

As will be seen from the engraving, the wheels or gearing are shielded, and there is therefore no possibility of accidents, which are of frequent occurrence with other machines,

TO SHIPPERS.

It is specially recommended, being practically unbreakable, occupies much less space, and is fully 20 per cent. less in weight than the ordinary machine.

Price lists free on application.

TAYLOR & WILSON,
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Oakey's FLEXIBLE GLASS PAPER,

Unequalled for Durability and Strength.

Oakey's GENUINE EMERY CLOTH,

Specially manufactured for the use of Leather Cutters, Shoemakers and others.

Every Sheet Warranted and Stamped with Name and Trade Mark.

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WELLINGTON EMERY AND BLACK LEAD MILLS, WESTMINSTER BRIDGE ROAD, LONDON.

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THE ORIGINAL MANUFACTURERS OF

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EVERY PART SUPPLIED IN VARIOUS STAGES,

From the Rough Stamping or Forgings to the
Complete Finished Article.

*None but the very best Brands of Material used for the several purpose
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VERY SPECIAL IN ALL SUNDRIES AND APPLIANCES,

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Works:—Saltley Mill, Birmingham.
DEALERS ARE INVITED TO APPLY FOR WHOLESALE TERMS

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GAS STOVES, BOILERS, &c., CHEAP HEATING APPARATUS, BOILER, AND PIPES,

From £4 15s. complete.

PLANT PROTECTORS,

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PIT FRAMES,

From £2 10s.



ESTIMATES FOR
HEATING CHURCHES, SCHOOLS,
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PUBLIC BUILDINGS.

A NEW MAKE OF BLACK LEAD

Unquestionably the BEST in the Market.

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Great saving of time and labour, an account of its great **SOLUBILITY**, and the remarkable **QUICKNESS** with which a **MOST BRILLIANT POLISH** is obtained.

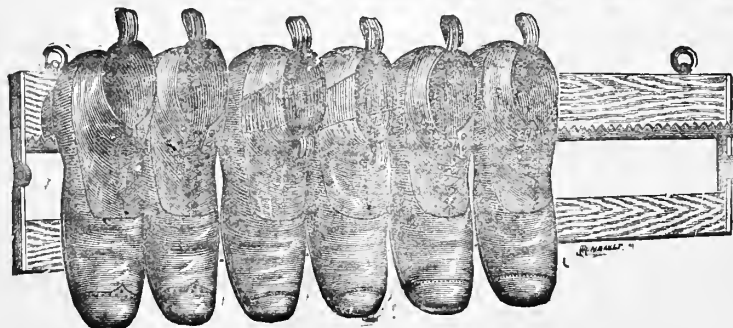
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In order to secure the rapid introduction which the quality, once tried, will undoubtedly command everywhere.

SAMPLES AND PRICES ON APPLICATION.

JULIUS LEVY & CO., Wholesale Agents, 91c, Leadenhall-st., London, E.C.

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A long existing want supplied
**MACDONALD'S
PATENT HANGING BOOT
AND SHOE RACK.**

**FOR DRESSING ROOM, BARRACK,
CAMP AND CABIN.**

Price, Polished Oak, Brass Fittings, 3 ft. long 10s. 6d.
" " Mahogany, Brass Fittings, 3 ft. long 8s. 6d.
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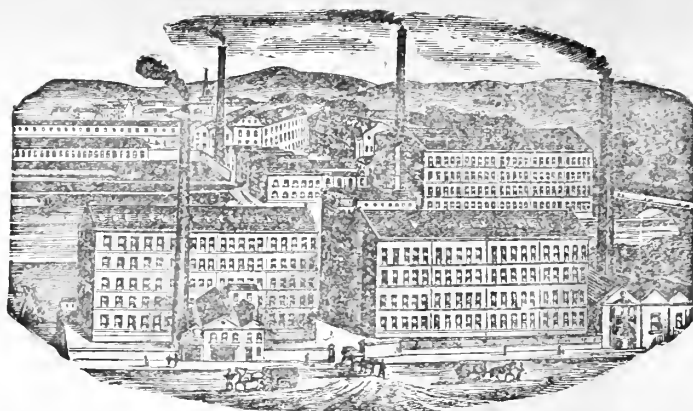


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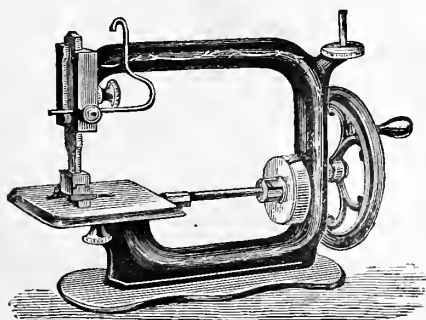
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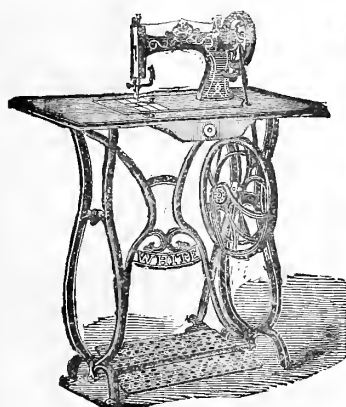
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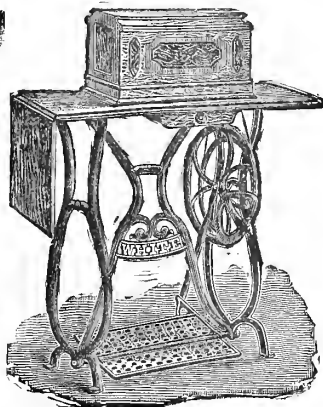
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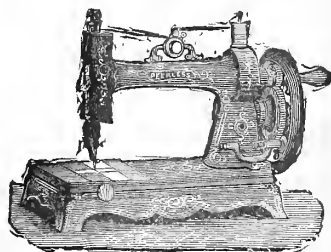
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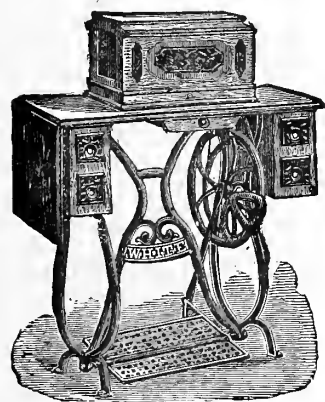
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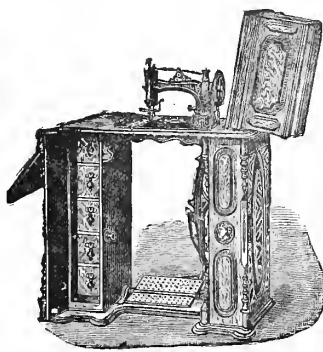


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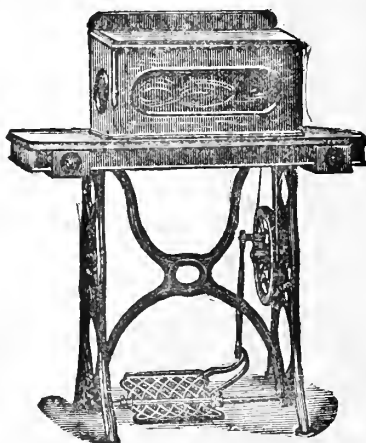
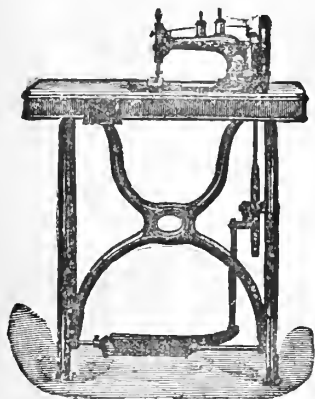
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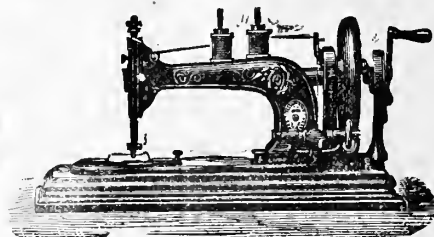
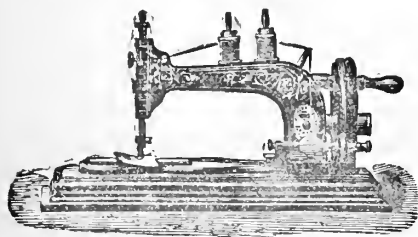
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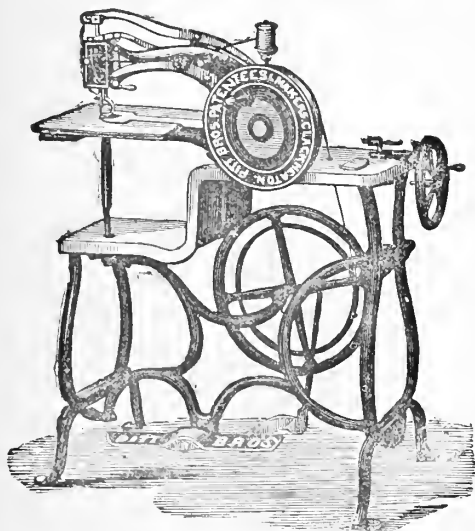
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Scarborough, 80, Hunniss-row

Seotholme, Basford-road
Sheffield, 37, Fargate
Shipley, 19, Kirkgate
Shrewsbury, 4, Market-street
Sittingbourne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 25, Gao-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stroud, 7, George-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadlow, Station-street
Swindon, 52, Regent-street
Teworth, 54, Church-street
Taunton, Bridge-street
Torquay, 58, Fleet-street
Turro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-road
Wednesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Windsor, 64a, Peasod-street
Winkford, Over-lane
Wirksworth, North-end
Winchbach, 51, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-Road
York, 24, Coney-street

WALES.

Abergavenny, 19, Market-street
Aberystwyth, Market-hall
Builth, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Llanmaes-street
Carnarvon, 5, Bridge-street
Dolgelly, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pontypool, Market-hall
Tontypridd, 2, Market-hall
Swansea, 103, Oxford-street

SCOTLAND.

Aberdeen, 225, Union-street
Aberroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Barny, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 25, Castle-street
Galafield, 63, High-street
Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st.
Hamilton, 32, Cadow-street
Hawick, 3, Tower-knowe
Inverness, 14, Union-street
Kilmarnock, 53, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Pardick, 87, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 61, Murray-place
Tain, Lamington-street
Thurso, Princes-street
IRELAND.
Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballinacorney, 67 and 68, Church-st.
Belfast, 3 and 4, Donegal-sq., N.
Carlow, Tullow-street
Coblenace, New-row
Cork, 79, Grand-parade
Drogheda, 37, St. George's-street
Dub, 59, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
Galway, Dominick-street
Kilrush, Moore-street
Kingsdown, 63a, Lower George-st.
Limerick, 31, Patrick-street
Londonderry, 1, Carlisle-road
Mullingar, Grenville-street
Navan, Trimgate-street
Newry, 18, Sugar-island
Parranstown, 2, Seftins
Queenstown, Harbour-row
Sligo, 45, Knox-street
Tralee, 40, Bridge-street
Waterford, 124, Quay
Wexford, Belakar-street

The only GOLD MEDAL for Boot and Shoe Machinery awarded at the Paris
Exposition was for the Machinery of the

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NEVER GETS OUT OF ORDER
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MOST POPULAR
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A PATTERN OF PERFECTION
MAKES NO NOISE
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ELIAS HOWE SEWING MACHINES,

ADAPTED FOR EVERY DESCRIPTION OF WORK.

Families will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several plies of heavy Cloth. Dressmakers who once use THE HOWE give it the preference over all others for beauty and durability of Stitch.

PURCHASE NO MACHINES

Complete with all Appliances from £4 4s.



Manufacturers of Boots and Clothing, who carry on a high-class trade, ONLY USE THE HOWE MACHINE.

A trial is all that is necessary to convince those in want of a Sewing Machine that THE HOWE is entitled to pre-eminence over all others.

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THE HOWE BICYCLE, Price from £15 15s.. Possesses all the latest improvements, and will be found unrivalled for quality of workmanship and material. See Special Lists.

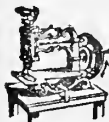
THE HOWE TRICYCLE, Price £16 16s.

A Machine designed on the Best Mechanical Principles.



THE HOWE MACHINE COMPANY (Limited), 46 & 48 Queen Victoria Street, London.
Factory: Avenue Street, Bridgeton, Glasgow.

RAYMOND'S CANADIAN SEWING MACHINES.

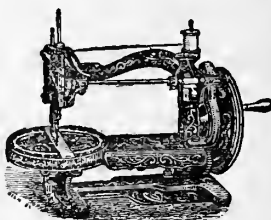


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c. — (See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



ALSO

£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work. Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder.

Testimonials, Prospectuses, Samples of Work, and all particulars free on application.

Raymond's No. 1 and 2 TREADLE MACHINES for Families, Dressmakers, and Manufacturers.

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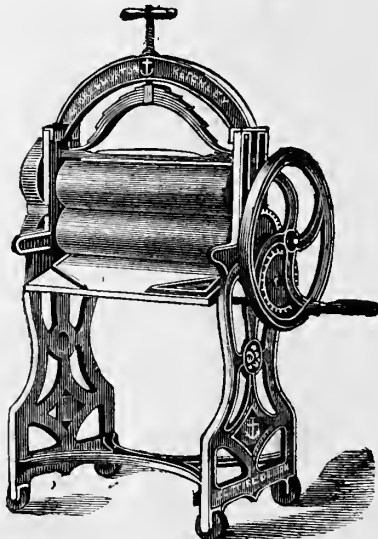
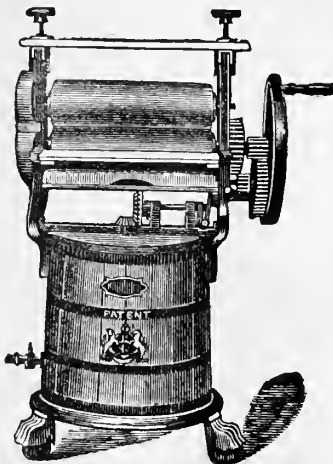
ROYAL, ANCHOR & PEOPLES
WASHERS,

And every description of

Wringing & Mangling Machines.

Price List and Illustrated Catalogue
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SOLE MANUFACTURERS OF THE

CYCLOPS CELEBRATED LOCK STITCH SEWING MACHINE,

FOR DOMESTIC AND MANUFACTURING PURPOSES,
TO WORK EITHER BY HAND OR FOOT.

These Machines are made from the Best Materials, and cannot be surpassed for excellency of finish and durability.

SHIPPING ORDERS EXECUTED ON THE SHORTEST NOTICE

THE "PHOENIX" WRINGER AND MANGLE.

(This invention is protected by two separate patents, 1882.)

ADVANTAGES.

The driving gear in this machine is entirely a new invention, and is acknowledged by practical men of experience to be far ahead of anything yet produced for this purpose.

The power required is not more than one-half that is necessary to work any other Wringer or Mangling Machine, whilst the speed attained is fully one-third greater.

The pressure is obtained from four separate spiral springs of requisite power, the y act with great ease and freedom, and the liability to fracture or breakage is reduced to a minimum.

The bearings for Roller Axles are all bored out, and are true and carefully fitted.

The mangle or drip Board works on swivels or pivots under the centre of bottom roller, and by means of our invention, can be instantly fixed to answer for either Wringer or Mangling.

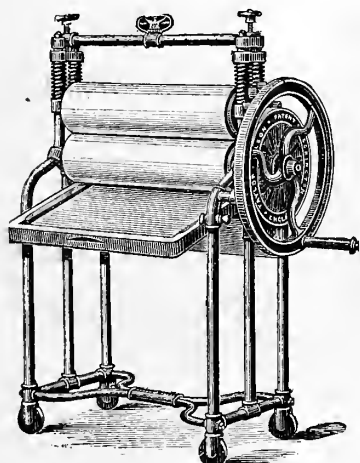
The framework is constructed from malleable iron tubes connected at the requisite points by means of molten or cast metal. It is considerably lighter than the ordinary Wringer Machine, is much easier to move about, and may be practically termed indestructible.

As will be seen from the engraving, the wheels or gearing are shielded, and there is therefore no possibility of accidents, which are of frequent occurrence with other machines.

TO SHIPPERS.

It is specially recommended, being practically unbreakable, occupies much less space and is fully 20 per cent. less in weight than the ordinary machine.

Price lists free on application.



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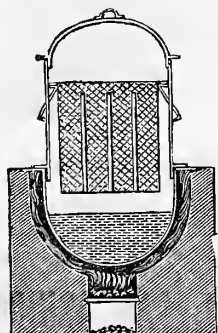
"MAGIC STEAM WASHERS."

No. 1 Size, 10 in.	-	-	-	-	at 15s. each.
" 2 " 18 in.	-	-	-	-	22s.6d.,
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" 2 " 24 in.	-	-	-	-	42s. "

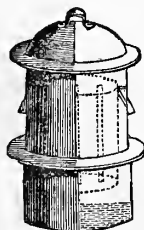
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No. 2.—Washer as fixed on top of copper.



No. 1.—Washer and Boiler complete.

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IS THE

Great Mechanical Success of the Age.

It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

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WANZER PLAITING, KILTING AND BASTING MACHINES,

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OXFORD CIRCUS, LONDON, W.**

NEW HIGH-CLASS WASHING MACHINE.



The "**PARAGON**" Washer, Wringer and Mangle (KENWORTHY'S Patent) is a compact powerful, and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize Silver Medal, General Competition, and also an extra First Prize, Silver Medal for Improvements; Worsley Agricultural Show, the Society's Medal; Altrincham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society Medal; also gained Prizes and Honours at the Northumberland, Halifax, Tormorden, and Preston Agricultural Shows.

Showing **PLUNGER**, which works up and down in tub about 60 times per minute, atmospherically forcing the hot water and soap through the clothes, thus not only loosing the dirt but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate articles.

Mr. JORDAN EVANS, 92, Cawder Street, Prince's Road, Liverpool, says:—"I beg to inform you that the 'PARAGON' Washing, Wringer, and Mangling Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in less than two hours."

Patentees and Sole Manufacturers of the Celebrated and World-Renowned **PATENT "CANADIAN WASHER,"** which is the most Simple, most Effective, and the most Economical Washer ever offered to the Public. This is on the same principle as the "Paragon Washer" Plunger, but is made to use by hand in any ordinary maiden tub, washtub, or bowl. Over 30,000 have been sold in a short time.

AGENTS WANTED in Districts not yet Represented.

E. N. KENWORTHY & CO., WASHING MACHINISTS, **OLDHAM, LANCASHIRE.**
ALPHA WORKS,

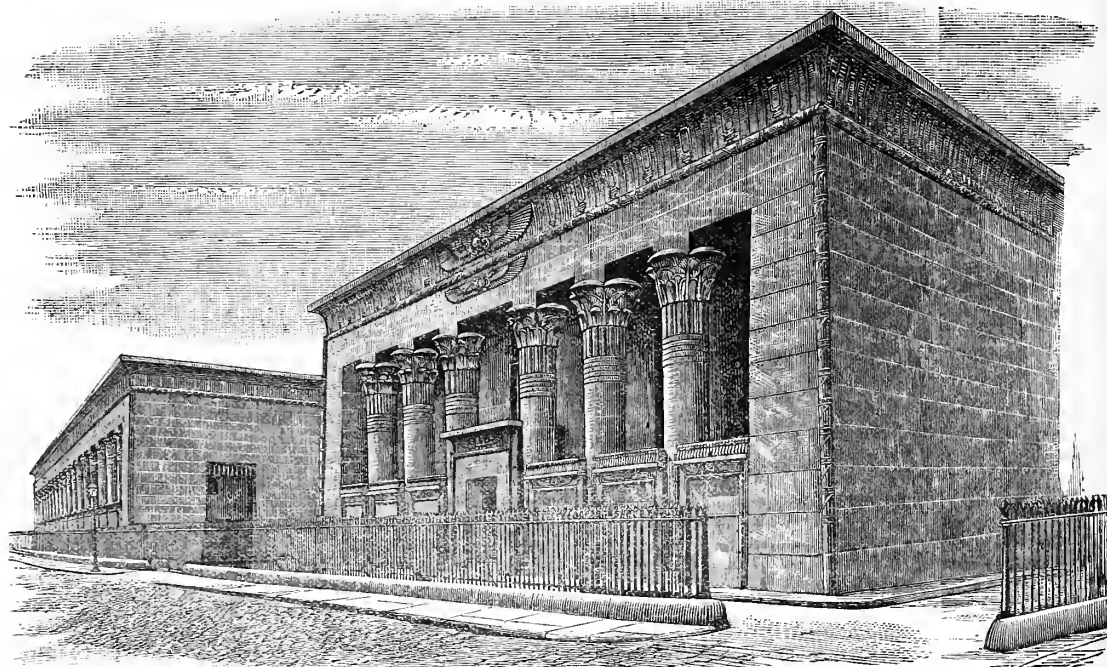
London Agent, Mr. **HARPER TWELVETREES**, Finsbury Pavement, E.C.

FROM RAW FLAX TO FINISHED THREAD.



FLAX was probably the first fibre spun by man. It is mentioned in holy writ, it is found in the form of linen wrappings covering the embalmed dust of the Egyptian mummies, and fragments of it are still in existence which show association with neolithic implements of much earlier date. It is not, however, our intention to place before our readers an archaeological research on this subject, and we shall content ourselves with mentioning these few facts, our object being to show that the

The manufacture of thread is not confined to any particular town, district or country, but in this particular industry we certainly hold our own, for in this "tight little island" are to be found the largest and finest thread mills in the world. Wishing to describe to our readers as fully as possible the most interesting processes of thread manufacture, we thought we could not do better than coach up our little knowledge by an inspection of the extensive mills owned by Messrs Marshall and Co., situate at Leeds, and at Shrewsbury. We had learnt that at the former the first processes of



Messrs. Marshall & Co.'s Mills, Leeds.
(From a Photograph.)

thread trade can boast of "claims to long descent," and that it is one of the industries of man to which a pedigree is attached sufficiently lengthy to satisfy the proudest Lady Vere de Vere. Flax is grown in many parts of the world, the finest being produced in France; Russia, Belgium, and Holland, are also countries where this useful plant is largely cultivated. Flax is a plant which grows rather shorter than wheat; its stem or stalk is not quite so thick. It is the outside or bark of this stem or stalk which furnishes fibre for spinning and for the manufacture of linen thread or linen; the inner portion being a hardish woody pith, which has to be threshed out, great care being taken that in so doing the fibre or bark is not damaged. When freed from its pith the flax is sold to the mills to be converted into thread. Its price varies from £40 to over £200 a ton, the difference in the quality of the fibre being scarcely perceptible to an outsider, so it is very evident that anyone who was not a connoisseur would make but a very sorry bargain. None but the best and most perfect flax is fit for thread making.

manufacture took place, while at the latter the finishing is done. So to Leeds we first went.

The business of Messrs. Marshall and Co., was established at Leeds in 1788, by Mr. John Marshall, and is now carried on by his family. Carlyle, in his *Reminiscences*, speaks of him as a man who "by skilful, faithful, and altogether human conduct in his flax and linen manufactory at Leeds had made a large fortune—and as a man worth having known—evidently a great deal of human worth and wisdom lying funded in him." Mr. John Marshall was the first who succeeded in spinning flax by machinery, and he built a mill in the pleasant open country then lying between Leeds and Holbeck. The green fields once surrounding the mill are now covered with bricks and mortar, in the shape of more mills, factories or foundries; the once bright clear river is now an inky stream, gathering as it passes along the refuse from dye works, mill and foundry, and emitting as Falstaff hath it "the rankest compound of most villinous smell that ever offended

nostril; " the few trees remaining are dressed in a penitential garb of soot, as though mourning for their comrades that have succumbed to the axe, while the only forest that meets ones view is a forest of smoking chimneys, all seemingly vieing with each other as to which can most effectually pollute the once pure country air. Leeds like London has much outstepped its boundary line, and thus we find a mill that once was in the country now comparatively speaking in the centre of the town. As their business increased, Messrs. Marshall soon found their mill altogether too small, and it has since been replaced by those of a more extensive character of one of which we give an illustration. The architectural design of the front of the office, is a copy of the well known Temple, called Pharaohs Bed, at Philæ on the Nile, and the front of the new mill having the same style of architecture is shown beyond. The Leeds mills together with the Shrewsbury mills consume five million lbs. of flax and hemp in the course of the year, and turn out what is known all over the world as Marshall's Shrewsbury threads.

In the production of the best thread it is not easy to say which is the most essential, the selection of the flax, the perfection of machinery employed, or careful manipulation in the many and various processes through which it passes. It is certain, however, that one machine not in perfect order, one careless worker, or even one imperfect roller, will in a short time do as much damage as any obstreperous bull in a china shop; for most assuredly a very considerable quantity of the most carefully prepared materials would be ruined, and passed on in such a state, that it would be condemned when coming under the eye of the all-seeing overlooker, as not being up to the necessary high standard.

To begin at the beginning, the first process that the flax undergoes, after making its *cutee* into the mill, is that of "hackling," by which the broken, tangled, or imperfect fibres are combed out. The operation is very similar to that of a lady combing out her hair, that has become very knotty and very entangled, only that in place of one comb there are hundreds, the teeth being of steel and steam power instead of hand performs the necessary operation. We could safely recommend the "hackling" machines to any lady as capable of combing out the knottiest tresses, but we would not guarantee that after the operation was finished, there would be much hair left to adorn the head. The next operation takes place in the "sorting room," where the flax now called "line" is still further relieved of any impurities by men who carefully look it over and then sort it into the numbers into which it will spin. In this room there are numerous wicker baskets on wheels into which the sorted "line" or fibre is placed. "Preparing" is the next process of manufacture. This operation is carried on in a large building, occupying about two acres, with a brick arched roof, which keeping an equable temperature makes it probably the best room for the purpose in the world. "Preparing" is a process of the greatest importance in the production of a perfect and regular yarn. The small locks of the "line" are laid by girls on a slowly moving strap of leather, each lock overlapping the one before it so as to form a continuous ribbon one or two inches wide, which is carried by the motion of the strap into the first "drawing frame." The principle of the drawing frame is this: the ribbon of material passes between a pair of slowly revolving rollers which hold it while they pass it forward, and it is then taken by another pair of rollers, which, revolving at a higher speed, draw the ribbon out to a greater length, and consequently make it thinner. But since a long fibre when pulled away by the drawing rollers might catch and entangle the fibres near it, a beautiful mechanism (which must be seen to be understood), was invented by flax spinners and afterwards adopted for spinning silk, worsted, and other long staples, by which a number of fine needles are pushed through the ribbon of fibre between the first and second pair of rollers and travel along with it, giving it a support and preventing the fibres being snatched away prematurely. The ribbon, or "sliver" as it is called, when it emerges from the drawing rollers is smaller than that made by hand, but is far too irregular in size to be spun into yarn, so four or more of

these are wound together into a can, and the sliver thus produced goes through a series of similar drawing processes at each of which a number of slivers are laid together and drawn out to a smaller size, that is more nearly to the size of the yarn required. As many as 50,000 slivers are thus laid together, and all the irregularities of the first hand-made ribbon equalized before a first-class thread yarn can be produced. The next process is "roving," which is the first twisting of the "sliver" or band which has been formed out of the flax. Previous to the twisting, the "sliver" or very thin narrow ribbon as it now looks like, has no strength, the slightest pull would break it asunder. It is, therefore, twisted and wound on a large bobbin and is now ready for the spinning frame. There are two kinds of spinning, hot water spinning and dry spinning. In the former the "rove" of flax, as it is now called, is made to pass through a trough of hot water, the object being to moisten the gum natural to flax. Thread yarns vary in size from 3,000 to 30,000 yards to the pound, and some small quantity is spun as fine as 60,000 yards to the pound. Messrs. Marshall and Co., have even spun over 100,000 yards to the pound, the finest linen yarn that machinery has ever produced. However, they do not pride themselves on this fine spinning, so much as on spinning the best and most perfect yarn that can be made, and on producing the exact style of yarn required for every sort of thread. For a different class of yarn is required, and a different style of machinery is used, for the fine threads employed in light sewing machines, and for the tough long stapled yarn required for shoe thread and for sole sewing machinery. The twisting of several strands together may seem a simple process, but requires care and many nice arrangements to prevent any imperfections passing into the resulting threads.

As every watch has its mainspring so has every mill its motive power, only the delicate little coil of spring which in the former is so constantly and unpleasantly associated with sundry shillings at the jewellers for repairing, gives place to a ponderous vertical engine, which in the mill we illustrate, is capable of working up to 800 horse power, and is a Samson for strength. The engine house is in the centre of the mill, and its architecture is Egyptian in style; the engine itself too must be a sort of distant cousin to Pharaoh, for its frame is of that peculiar construction which flavors of the land of the Nile.

We have seen the fibre at Leeds, "hackled," "prepared," and then "spun," it has now to be "finished," and as that process cannot be done to perfection in the smoky air of Leeds, Messrs. Marshall do very wisely in sending all the yarn off to Shrewsbury, a town of much clearer atmosphere. Ere leaving Leeds, we glanced round portions of the mill that are not devoted to the manufacture of thread, and we saw large rooms filled with looms weaving such materials as first class drills, sheetings, bed ticks, &c., which articles form a large portion of Messrs. Marshall's weaving business.

Shrewsbury is a very clean town through the outskirts of which the river Severn winds its way. It is a very old fashioned, hilly, and boasts of a fine castle, which frowns down on you as you enter the town from the station. About a mile out are the mills of Messrs. Marshall and Co., which were built in 1797. These have a loop line connecting them with the London and North Western Railway, and by it the yarn is received from Leeds, and the finished threads are sent to their various customers. A small quantity of spinning is done at this mill, in order that there may be no delay in executing orders which are urgent. Here, as at Leeds, the utmost scrutiny is given to the yarn in order that all flaws or knots may be detected. We noticed a man examining these yarns, which were hung on a pole in front of a window. He was hunting for knots as though his very life depended on it—indeed, to a certain extent it did, for if he allowed any to pass him undetected, he would at the end of the week be unpleasantly reminded of that fact, by finding that a fine had made his wages rather shorter than usual. But he was a sharp eyed old man, and it was very seldom he was caught napping. If, however, he did detect any faults, the girls who have passed it on, were, of course, fined. This strict system of

SUPPLEMENT TO THE
JOURNAL OF DOMESTIC APPLIANCES AND SEWING MACHINE GAZETTE,
OCTOBER, 1882.



DOMESTIC HEATING APPARATUS,
MANUFACTURED BY
MR. JAMES KEITH, EDINBURGH.

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fining is most necessary, as a knot in a thread, as our readers well know would often snap a sewing machine needle. The way to a boy's heart is through his mouth; the way to ensure a girl's care and attention is through her pocket.

After the hanks of yarn are received from Leeds they are taken to the dye house, and are first boiled in water to which has been added an alkaloid. This process is to cleanse the yarn of its gummy matter, and leave nothing behind but pure fibre. Were it not for this process, which was first put in practice in these mills, it would ferment and rot. The hanks of yarn are next washed by being hung on a revolving bar of wood, the end of the hanks dipping in the water and the bar slowly revolving. Next follows a machine—somewhat resembling a huge wringing and mangling machine, which squeezes out all the water from the hanks—even more effectually than the hardy muscles of our grandmothers wrung dry the family washing. After being duly washed, the hanks do not have their hair combed like good little boys—for that has been done previously—but are treated to a dip in the dye. In a huge cauldron, round which the witches of Macbeth might have felt quite at home, is brewed the liquor, which if not composed of such odd and varied ingredients, has sufficient in it to impart to the hanks a good clear colour. The liquid contents of the cauldron are conveyed along little wooden troughs to the receptacles in which the hanks are placed. They are made to turn as in washing on a revolving beam, their ends only dipping in the dye, and it is owing to this that an evenness of colour is obtained. While speaking of dyeing, we may mention that Messrs. Marshall have another dye and bleaching works at Hanwood, a village about four miles distant, "far away from the maddening crowd," free from any factory smoke, and blessed with a pure clear stream of water. They contain all the best appliances for bleaching, and are a great acquisition to the Shrewsbury mills.

Having been dyed the required colour the hanks are next taken to the "drying-room," a not very enviable place to be in in sultry weather, as it is usually kept somewhat about 120 degrees Fahrenheit. Different colours require different temperatures, some will stand great heat, while others would run were the air too hot. After the hanks have become well dried they have to undergo an important process—that of finishing. The hank is wound on to a bobbin and then passes through a polishing solution, different threads requiring different polishes. The composition of this polishing solution is one of the secrets of the trade, each manufacturer having their particular way of making it, the perfection of which has been the result of long experience. Previous to polishing the thread is dull, but when it has passed through the machine it is glazed, smooth, and is firmer to the touch. In the machine which polishes are small brushes and fine plush rollers, the material covering the latter being more costly than any worn by Belgravian belle. In some cases the thread is polished in hanks; when such is the case they are dipped in the solution, and polished with flannel covered rollers. We just gave a glance in what is called the "old finishing room;" in it the hanks are polished simply by the friction gained by twisting on iron hooks. Youths with large iron hooks and suitable machinery, were twisting and wringing the hanks about in torturous positions as eagerly as if they were officers of the inquisition bent on extracting a secret from the luckless being in their hands. A little further on was another room where the hanks were undergoing more torture by men with poles and racks, by being tugged in one position, twisted into another, and wrung in every conceivable way. However, the hanks were pretty tough, and did not at the end seem much the worse for their inquisitorial, tortures, save that they were more smooth and shiny, which told they had experienced some considerable amount of friction. We now follow the hanks of thread and find that they are not yet passed on as perfect. Other threads, such as those used for sole sewing and all that are waxed by the user, would be ruined by being polished, and are, therefore, "finished" in other ways, the secrets of which are only known to the initiated. There is no more torture in store for them, but there

is a man with a pair of hawk like eyes, who will look them carefully through to see if they have suffered in the inquisition chamber. Some have a thread or so broken and they are at once condemned, and if not cast into outer darkness, they are put by for altogether another purpose.

The old fashioned skein threads in pound packets are put up by boys. These young gentlemen sit at a long wooden bench, each one having in front of him small wooden pegs fixed upright into the bench. Between them he arranges the skeins in layers and ties them round tightly with another skein. With a little skill with the fingers, and by the aid of sundry taps, which he constantly gives to the thread with a wooden stick he produces a neat firm pound packet. Passing on we come next to the "making up room." First, in order that the thread when made up may present a neat and tidy appearance, the knots which tie the skein are arranged by little girls so that they shall be all in one place. The skeins are stretched across a frame and the little girls pull the knots round till they are all of a row. The skeins are next made up into pounds by girls and papered up, each packet having an index number, so that customers desiring to order more of the same or to make any reference to it can do so. Of course a large



Label for 4-oz. Spool.

Wax Machine Thread, Extra Long Staple Flax

quantity of thread is not sold in packets, but on reels or spools. These, which have to be turned with the utmost regularity are imported from Canada, Norway and a few other parts. They are made in many shapes and many sizes. Perhaps the "last stage of all that ends this eventful history" is that of winding the thread on to the spools, or reels as they are called in everyday parlance.



Label for 2-oz Spool.

Best 3-cord Thread for Sewing Machines.

This operation is of course done by machines. In order that every reel may have its exact length a system of checking is adopted, and every morning three reels or spools are taken at hazard from those wound by each girl during the previous day, and having a private number affixed, they are taken to the overseers to test the measurement. "Balling" was also being done in the same room on machines which are self measuring, and here we saw how the small balls of the old fashioned shoe thread to be seen in many

cobblers' shops are produced in such countless numbers. The balls of thread too were constantly weighed by the attendant, every one of which has her scales as a check on the machine.

Referring to threads for sewing boots and shoes, we may mention that hemp is sometimes used instead of flax. The fibre is very similar to flax though the plant is botanically very different. The finest hemp is grown in Italy and is used for coarse shoe threads. The finishing of wax threads is different to ordinary threads, they are not glazed and are so finished that they will readily absorb the wax.

The labels for the spools, which are ready gummed, are stuck on by little girls, and instead of making the tongue perform the damping operation, as is customary when affixing a postage stamp, the child damps the label on a narrow brass cylinder, which is made to revolve slowly while the lower half of it is in water. We suppose there is no better proof of the superiority of Messrs. Marshall's threads than the fact that these labels have been so often fraudulently copied. Imitation may be the sincerest form of flattery, but we hardly think in this matter Messrs. Marshall would appreciate



Label for 1-lb. Ball.
Sole Sewing Thread, free from Knots.

the attention of continental imitators. We give illustrations of several of their labels, which are attached to well-known threads. There now only remains to box up the threads, to give each box an index number, and they are ready to be dispatched to any part of the world.



Label for 2-oz. Spool.
6-cord Machine Twist, Silk Substitute.

Glancing through the mills we notice that they have a little printing office, wherein they do all their labels and sundries; we notice that there is a blacksmith's shop for repairing the machinery and carpenters shop for packing cases; we also observed that the arrangements and hydraulic apparatus for extinguishing fire, are such as would make glad the heart of Captain Shaw, or would have been sufficient to inspire confidence into the breast of Miss Betsey Trotwood, who it will be remembered, lived a house beside the Thames, so that she might have plenty of water handy.

There were many warehouses that we passed through ere leaving the mill which were stored with large quantities of thread, finished

and unfinished, the great variety of which entirely surprised us. It must need, to keep them stocked in good order, a very careful and methodical man, with the bump of order very strongly developed, who could not only store them away, but place his hand at a moment's notice on any one kind of thread that was required out of the many thousand varieties under his charge. Not only were there threads for shoe making, tailoring, but also for carpet sewing, harness making, bag making, net making, bookbinding and lace making and many other purposes. We could not help noticing that the entire stock was carefully kept and the nicest order prevailed.

During our progress through the various departments of the mills, excepting the packing and storing rooms, our ears have been subjected to a whirr, hum, and buzz of machinery; we have had to speak to our guide as loudly as though we were talking to a deaf man, and it is with a sense of relief we leave this hive of industry for the open air. The various processes have been most interesting to observe, and the machinery employed is certainly the most modern and the most ingenious that the human brain could invent.

A TRAVELLER'S MISTAKE

A commercial man on sales intent,
Into a country tradesman's went,

With smiling face and bland;
Right through the crowd about the stove
Straight on the merchants' desk he drove,
His samples on the counter heave,
And shook the merchant's hand.

Then, while his tongue ran quick and fast,
Upon the merchant's face he cast

His most persuasive look;
Pleading the while, "I'll gladly show
My newest lines, their prices low,"
He spread his samples in a row,
And ope'd his order book,

Firstwhile a form came through the door
In clothing tattered, old and poor,
And happening to the spot
Where, by his wares, the traveller stood,
Seeming in an inquiring mood,
Asked not—"Please, sir; do I intrude?"
But fingered o'er the lot.

The traveller, then with darksome frown,
Gazed on the seedy hat and gown,
That clothed the countryman.
And when he asked in gentle way,
"What is the price of this to-day?"
Turned quickly on that sinner gray,
And thus to him began:

"Pray what is that to you, gray head;
I represent the wholesale trade;
Why—look—you cannot buy?
D'you know, old man, you're too fresh—quite?
My goods would be in a pretty plight
Had every straying man the right
To handle them—come, fly."

The old man turned his glass-trimmed eyes,
With steady look of mild surprise,
Upon the man of ire;
Then, as on some deep thought intent,
Turned slowly round, and silent went
Back to the stove, where, forward leant,
He warmed him o'er the fire.

"Bah!" said the traveller, "what a boor,
Such men I never could endure;
A plague on them I say."
The merchant smiled. "I fear," said he,
With you I hardly can agree."
"Why?" "Oh, because he is, you see,
My partner, sir. Good day,"

NOTES ON DOMESTIC APPLIANCES.

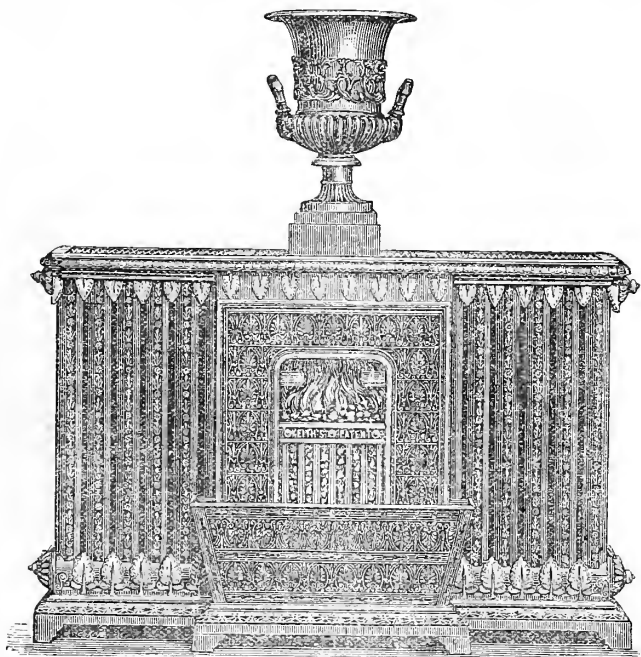
No. 1.—HEATING APPARATUS.



AVE any of our readers ever seen an old-fashioned kitchen fire place? There are a few to be met with now in country farm houses, but the majority have had their day and ceased to be. They were constructed evidently for the purpose of consuming the very largest quantity of fuel in the smallest portion of time, and gave to the inmates of the room very little warmth, nearly all the heat ascending the chimney. To say they swallowed up coals like an earthquake; and were costly, wasteful, ugly, smoky and draughty, is to say as little as possible in reprobation of one of the most abominable nuisances which our grandparents had to endure. But as we have said, such stoves

The principle of hot water circulation is very simple. Hot water, being much lighter than cold, always inclines to rise above the cold water; thus, if a closed vessel or small shell boiler be connected by two pipes to a water cistern, away from it even a considerable distance, the whole being filled with water, on a fire being lighted inside the boiler, a heat is raised on the water surrounding it, so that the heated water rises up the top pipe into the cistern, the cold water returning down lower pipe to boiler again to get heated in turn, and thus it continues to flow up from boiler to cistern, and return down from cistern to boiler, until the whole water in cistern is, say, hot.

In a building heated by hot water, the boiler must be the very



SECTIONAL HOT WATER COIL TABLE.

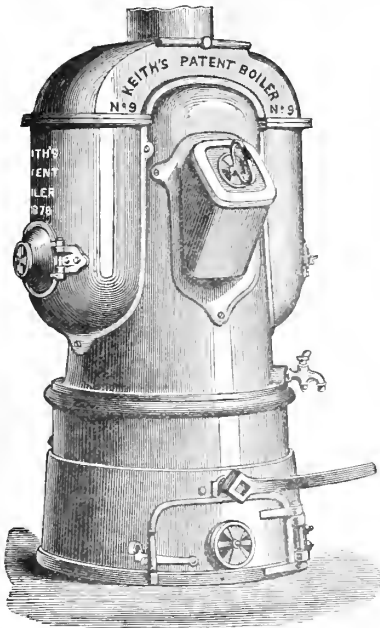
have become delightfully scarce, and it is a good thing they have; for their stomach for the consumption of fuel was such a large and ravenous one, that it is very certain the house-wives of the present day would have had, at alarmingly frequent intervals to have used Tom Hood's words and said "My love, we're out of coals."

The large wasteful stove gave place to others of more improved construction, and at length to the closed up "kitchener;" and fire-places for other rooms were constructed with a view of more economic consumption of coal. However bright and cheerful an open fire may be, we have to admit that it is not by any means the best way of warming a room—and most especially a large one. For warming schoolrooms, chapels, conservatories, churches and large public buildings, an open fire would be simply useless and absurd; and for this purpose there are three systems of heating, namely, by hot air, by steam and by hot water, the latter being by far the most healthful and efficient.

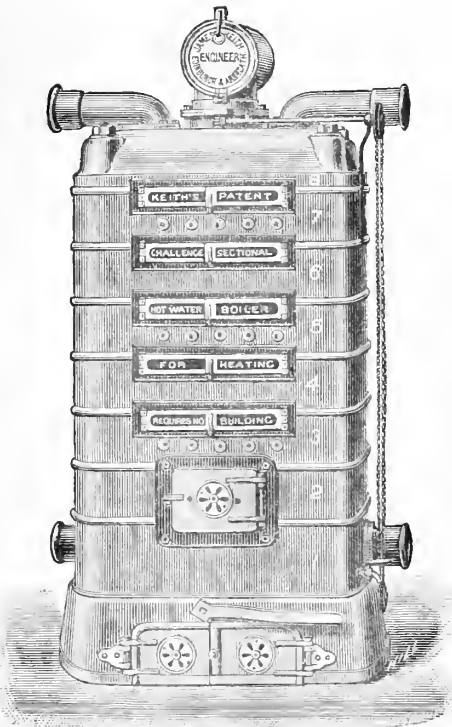
lowest part of the whole arrangement, the pipes (flow and return as they are called) ascending from it to all parts of the building, to given highest point, which should open, to allow for expansion and evaporation; this gives a free and easy circulation to the water, and ensures as much safety in the working as in the case of an ordinary kettle boiling with the lid off. As already indicated though a great deal depends on the proper fitting up of the pipes, coils, or other radiating surfaces used in the best hot water plans together with the sizes of pipes and their proper connection to and distribution from the boiler, still, the most important thing of all to ensure plenty of heat with economy in fuel, is a proper and rapidly circulating boiler.

This boiler, in fact, is the mainspring of the whole arrangement, as, however, well the pipes and apparatus are fitted up, if the boiler be not constructed on the most improved principle, to give quick circulation with small fuel consumption, the whole affair is most unsatisfactory, and expensive to keep going,

Mr. Keith, of Edinburgh, has given great attention to the manufacture of boilers. His patent boiler is most effective.

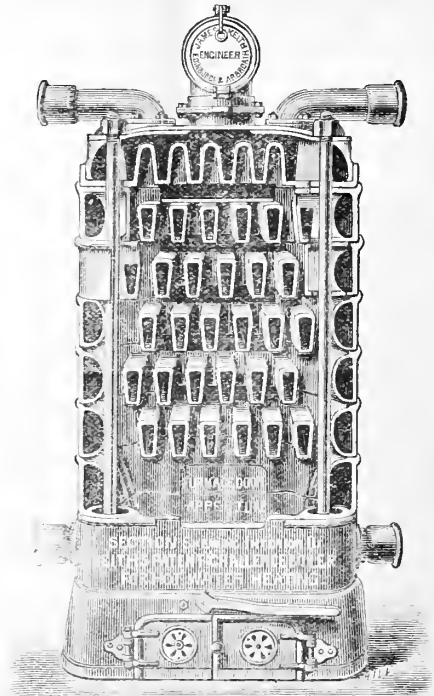


KEITH'S PATENT BOILER.



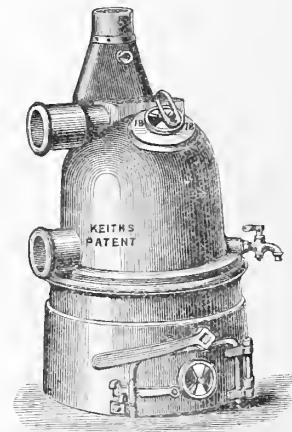
THE "CHALLENGE" BOILER.

durable and economical in the consumption of fuel. The "Challenge" boilers, which he makes, are constructed of sections in such a manner as to give about ten times the heating surface



INTERIOR VIEW OF "CHALLENGE" BOILER."

of an ordinary saddle boiler. The draught of the "Challenge" boilers is all upward, and they will consume coke or anthracite coal. They are constructed so that the outside is surrounded by water, and as there is no brick or building work about them there is no danger of fire.



PATENT BOILER.

Another article made by Mr. Keith is a Sectional Hot Water Coil Table. This new sectional coil table being ornamental, requires no coil case over it, and is a most perfect and handy form of

coil table, giving as it does, at least, three times the heating surface, in the same space, of any other form of pipe coil in use. This patent coil is bolted together in an ingenious manner, in vertical sections, each section being equal to 12 feet of 4 inch pipe, or, say 24 feet of 2 inch pipe in heating surface, and it can be put up or taken down rapidly with the greatest ease, no bolts or connecting pipes being seen; when used as an ordinary hot water coil, it is possessed of continuous sections, having no open fire, and connected from below to hot water boiler or apparatus, the circulation being through all the sections at one time, and most rapid, in consequence. Owing to its construction the coil can be made either long or short as required, and it can be painted or decorated in any way, to be in keeping with its surroundings.

When used with an open fire, as now illustrated, with a vase on the top as water cistern, it forms a most complete and powerful hot water heating apparatus in itself with a cheerful bright fire, ready to be set down anywhere on a wooden floor, if necessary, and connected to a chimney, in a school, small church, large room, show room, large conservatory, or in the hall of a mansion or dwelling house, &c.; the heat given off being a pure and healthy hot water heat, while the open fire in connection looks cheerful, and acts at the same time as a good ventilator.

As a warmer, it acts most rapidly and efficiently, and where desired the fire can be filled up and "rested" down, by the use of the sliding doors so as to last for 10 or 12 hours without attention, say over night.

AN ELECTRIC LAMP STORY.

An old couple went to the Crystal Palace, were charmed with the electric incandescent lights, and asked the price, and found it moderate, the Swan lamps only costing 5s. each. Their means were limited, but the advantages seemed great, and they resolved to risk it, and invested in three or four Swan lamps. "Of course," said the intelligent clerk, who handed them the Swan circulars, "you know all about the engines and the different systems of producing electricity?" "Jist like these fellers, my dear," said the cautious old gentlemen *sotto voce*, nudging his wife. "Come along Maria." He thought he was going to be wheeled into buying a lot more things by a pushing young tradesman, and so the two hurried off. They got home, and, taking a box of lucifers, applied match after match to the "filament," after removing the globe a (vacuum) with some difficulty. Still the thing would not light. At last enraged, they appealed to the firm, and were—too late!—initiated one step further into the mysteries of electric lighting, which certainly seemed to them to be a case of "*locus a non lucendo*."

A NON-ELECTRIC INCANDESCENT LAMP.

A bright light, easily obtained and sufficient for projections, has frequently been regarded as a *desideratum*, where it has been impracticable to procure either the electric or lime light. The French Minister of Public Instruction lately appointed a special commission to indicate the apparatus most suitable for projection in primary schools; and it appeared that while there was no lack of simple arrangements for the projection proper, the problem of easy production of an adequate luminous source was hardly solved.

Dr. Regnard has lately conceived the idea of getting a bright light by burning on platinum gauze a mixture of air and petroleum vapor. The intense heat which results raises the platinum to bright incandescence, giving a light equal to about half the lime light.

The apparatus is very simple. There is an ordinary Bunsen burner, terminated by a small cage of platinum wire. The mixture of air and petroleum vapor is admitted below, in place of the gas, it is produced by a familiar method and the current is generated by means of a pair of bellows or a Richardson "pear." With a ventilator or "trompe," several of the lamps may be maintained in action at once, for lighting halls, workshops, &c., where there is no gas. The aspect is that of electric incandescent lamps. In this

case, it is well to augment the volume of the carbonator, so that the supply of petroleum vapor is abundant. To send all the light in one direction, the Bunsen burner may be fitted with a bent trumpet-shaped nozzle closed with platinum gauze. One has merely to regulate, with the ring of the burner, the admission of the mixture of air and vapor, to have, whenever the current is produced, an extremely bright light.

With a large loaded bag of air under the table the lamp may be kept in action several hours, without requiring attention.

The apparatus should be useful to medical men in examination of the larynx, ear, &c.

The expenditure is very small, only a few centimes an hour, with maximum action.

STEELWORKS IN BRITISH AMERICA.

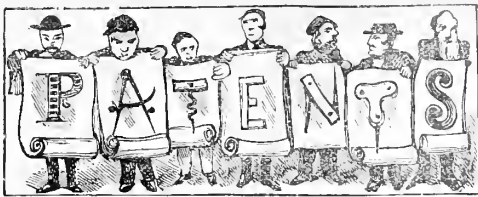
The first establishment for the working and manufacture of steel in British America has been started at New Glasgow, Nova Scotia. The works are in charge of Mr. Graham Fraser, whose skill and energy developed the adjoining forgeworks out of a modest nail factory. Mr. Fraser has just visited this country, where he has ordered the necessary plant. The steel ingots will be worked up under the rolls, instead of as usual under a steam hammer, by a reversing engine of two 30-in cylinders.

THE PRESTON AGRICULTURAL SHOW.

At this show, which was held from the 5th to the 8th ult., many articles appertaining to these trades were exhibited. Messrs. Whalley, Smith and Paget, of Keighley, exhibited washing machines wringing and mangling machines, and chaff cutters; Messrs. Thomas Bradford and Co., of Manchester, were present with the "Vowel" washing machines, the "Diaphragm" churns, and other laundry and dairy appliances; Messrs. Harrison McGregor and Co., of Leigh, showed some self delivering reapers, and mowers-oilcake wells and other agricultural implements; The Albion Iron Works Company exhibited a varied assortment of implements of the same class; a combined thrashing and punching machine was shown by Messrs. Ruston, Procter and Co., of Lincoln; weighing machines were exhibited by Messrs. W. and T. Avery, of Birmingham, while Mr. Thomas Cortall, of Shrewsbury, showed the "All England Excelsior" single furrow plough, and many other types of this implement; the "Reversible" lawn mowers, the "Automatic" lawn mower, the "Star" hose rake and many similar articles formed the exhibit of Messrs. Ransomes, Head, and Jefferies, of Ipswich, together with portable steam engines; and Messrs. Summerscales and Sons, of Keighley, showed a collection of their well known laundry appliances.

THE UNIVERSAL KNITTING MACHINE.

A machine which requires only to be better known, to become much appreciated is the above. It is a marvellous piece of mechanical skill, and has taken many years of patient study to bring it to its present state of perfection. It will produce every kind of knitting that can be done either by loom or hand knitting; it makes hose and half-hose, plain or ribbed, superior to hand work mufflers, muffs, collars and cuffs, antimacassars, mats of all kinds fringes, cords, &c., and a variety of other articles in silk, cotton, and wool, making upwards of twenty different kinds of stitches and patterns. The machine—which is so simple that a child can work it—makes a perfect stitch; drop stitches being next to impossible. It has wonderful speed, such that a full sized sock can be made in ten minutes, plain or ribbed. For further particulars we refer your orders to Mr. Gimson, Dashwood House, 9, New Broad-street, E.C.



The following List has been compiled expressly for the "Journal of Domestic Appliances" by G. F. REDFERN, Patent Agent, 4, South-street, Finsbury, London, and at Paris and Brussels.

APPLICATIONS FOR LETTERS PATENT:—

- No. 3913. J. R. Chibnall, of 79, King-street, Hammersmith, London, for improvements in baking ovens. Dated August 16, 1882.
- „ 3926. W. R. Lake—a communication from G. Gale, of Waterville, Quebec, Canada, for improvements in spring mattresses or bed bottoms. Dated August 16, 1882.
- „ 3930. G. Henderson and D. McNeil, both of Blackfriars-road, London, Sanitary Engineers, for improved water waste preventer, applicable to closets, urinals, and other purposes. Dated August 16, 1882.
- „ 3952. J. F. C. Norman, of 17, Portsea-place, West, London, and A. H. P. S. Wortley, of Rosslyn House, Grove End-road, North West London, for improvements in gas stoves. Dated August 18, 1882.
- „ 3960. M. M. Brophy, of the Holborn Engineering Works, London, for improvements in and connected with gas apparatus for heating water or for generating steam, parts of which invention relate to cooking, grilling, or other stoves or ovens for various purposes, and also in gas burners and regulators applicable to the same. Dated August 18, 1882.
- „ 3973. W. McCausland, of Belfast, Ireland, for improvements in chums. Dated August 19, 1882.
- „ 3979. W. S. Lewis, of Wolverhampton, Staffordshire, Velocipede Manufacturer, for improvements in the driving mechanism of tricycles and other velocipedes and manumotive vehicles having two driving wheels upon one axle. Dated August 19, 1882.
- „ 3990. E. Tomlinson, of 58, Holborn Viaduct, London, for improvements in apparatus to facilitate the lighting of fires, and in fire-places and grates, chimneys, chimney tops, and in apparatus combined therewith, for increasing draft, preventing smoke, and economising fuel. Dated August 19, 1882.
- „ 3993. J. Hopewell, of Salford, Lancashire, for an improved door mat, boot and shoe cleaner. Dated August 19, 1882.
- „ 4002. R. W. Crabtree, of Leeds, Yorkshire, Ironfounder, for improvements in kitchen ranges or cooking ranges. Dated August 21, 1882.
- „ 4006. J. Stassen, junior, of Euston-road, London, Bicycle and Tricycle Manufacturer, for improvements in velocipedes. Dated August 21, 1882.
- „ 4026. C. G. Beddoe, of Lambeth-road, London, for improvements in skates. Dated August 22, 1882.
- „ 4028. E. Perritt, of Victoria-chambers, Westminster, London, for improvements in filters and in the mode of and apparatus for cleansing the same. Dated August 22, 1882.
- „ 4030. J. Maddin, of 93, Borough High-street, London, for improvements in the manufacture of mats and in apparatus for such manufacture. Dated August 22, 1882.
- No. 4059. A. J. Boulton—a communication from P. Geoffroy-Gomez, of Toulouse, France, for improvements in gas fires or stoves. Dated August 24, 1882.
- „ 4062. H. J. Haddan—a communication from Schneider and Lemp, of Leipzig, Saxony, Germany, for improvements in sewing machines. Dated August 24, 1882.
- „ 4063. J. Cavagna, of Manchester, Restaurateur, for improvements in apparatus for retaining heat, warming food, and smoothing fabrics, and in artificial fabrics, and in artificial fuel therefor, applicable for other uses. Dated August 24, 1882.
- „ 4074. D. Jones, of 1, Dunluce-street, Walton, near Liverpool, for an improved system of heating baths of dwelling houses, or baths for private use. Dated August 25, 1882.
- „ 4077. J. F. Wright, and G. E. Wright, both of Birmingham, Manufacturers and Co-partners, for improvements in gas stoves. Dated August 25, 1882.
- „ 4090. W. Thornham, of Boroughbridge, Yorkshire, for improvements in means and appliances for heating and warming. Dated August 26, 1882.
- „ 4096. W. R. Lake—a communication from E. Z. I. Téterger, of Paris, for improvements in gas burners. Dated August 26, 1882.
- „ 4103. P. Bevernage-Standing, of Gand, Belgium, for improvements in knitting machines. Dated August 28, 1882.
- „ 4109. F. H. Wenham, of Warbeck-road, Shepherd's Bush London, Engineers, for improvements in gas lamps. Dated August 28, 1882.
- „ 4112. W. Morgan-Brown—a communication from W. W. Rosenfield, of New York, United States, Mechanic, for improvements in baths. Dated August 29, 1882.
- „ 4113. J. H. Johnson—a communication from C. H. Wilcox, of New York, United States, for improvements in sewing and trimming knit goods and other fabrics, and in forming welts or hems thereon, and in machinery for sewing trimming, and wetting hosiery, and for other purposes. Dated August 29, 1882.
- „ 4117. A. Sandiford Openshaw, of Birmingham, Merchant, for a new or improved machine for washing lawn tennis balls and for other like purposes. Dated August 29, 1882.
- „ 4120. R. W. Raphael, of Balmamore, Ballymoney, Antrim, Ireland, for an improved self-indicating tea or coffee urn, heating jacket, and feed kettle combined. Dated August 29, 1882.
- „ 4123. Mary Richards, of Brierley-hill, Staffordshire, for improvements in filters. Dated August 29, 1882.
- „ 4129. H. J. Haddan—a communication from C. M. Valfort, of Macon, France, for improvements in bakers' ovens. Dated August 29, 1882.
- „ 4138. G. Nobes, of 27, Dudley-grove, Harrow-road, Paddington, London, Sanitary Engineers, for improvements in deodorising and disinfecting apparatus. Dated August 30, 1882.
- „ 4149. A. M. Clark—a communication from H. G. Fiske, of Springfield, Massachusetts, United States, for improved apparatus for hanging electric and other lamps, and other articles and for removing them from their place of suspension. Dated August 30, 1882.
- „ 4153. E. Edwards—a communication from J. A. Wilmet, of Riverside, New Brunswick, for an improved carpet fastener. Dated August 31, 1882.

- No. 4157. W. J. Lloyd, of Harborne, Staffordshire, Manufacturer, for improvements in tricycles and other velocipedes. Dated August 31, 1882.
- „ 4159. J. H. Johnson—a communication from Dr. A. D'Arsonval, of Paris, for improvements in telephonic apparatus. Dated August 31, 1882.
- „ 4160. J. D. Husbands, of Queen Victoria-street, London, Gentleman, for improvements in telephonic instruments. Dated August 31, 1882.
- „ 4163. A. M. Clark—a communication from W. Maynard, of New York, United States, Chemist, for improvements in filters. Dated August 31, 1882.
- „ 4175. W. J. Sage, of 77, Lorrimer-road, Walworth, London, for improved means or appliances for securing heads of brooms to their handles. Dated September 1, 1882.
- „ 4193. W. H. Beck—a communication from L. Chosson, of 2 Boulevard de Strashourg, Paris, Machinist, for a new or improved machine for cutting, pleating, and sewing the linings of hats. Dated September 2, 1882.
- „ 4197. J. Warwick, of Manchester, Sewing Machine Manufacturer, for improvements in sewing machines. Dated September 2, 1882.
- „ 4200. G. S. Kelsey, of 13, Temple-street, Birmingham Auctioneer, for improvements in handles for bicycles, tricycles, &c. Dated September 4, 1882.
- „ 4231. J. H. Johnson—a communication from F. Kettinger and N. Ott, of Vienna, Merchants, for improvements in means or apparatus for protecting trees and shrubs. Dated September 6, 1882.
- „ 4232. J. Hudson, of Bolton, Lancashire, for improvements in apparatus for holding and releasing cords for venetian and roller blinds and other like purposes and in roller blind furniture. Dated September 6, 1882.
- „ 4246. W. R. Lake—a communication from J. H. Cary, of Boston, Massachusetts, United States, for improvements in electric signalling apparatus, chiefly designed for telephonic purposes. Dated September 6, 1882.
- „ 4278. F. Siemens, of Dresden, Saxony, for improvements in lamps. Dated September 8, 1882.
- „ 4286. T. R. Brailsford, of Trinity-square, Tower-hill, London for improvements in electric bell and signal apparatus. Dated September 8, 1882.
- „ 4287. S. C. Jervoise, of Erdsleigh House, Torquay, Devonshire, for improvements in open fire grates. Dated September 8, 1882.
- „ 4291. J. J. Shedlock, of Barnet, Hertfordshire for improvements in gas burners. Dated September 9, 1882.
- „ 4292. A. A. Trimmings, of 54, Grove-road, Holloway, London for improvements in lawn tennis bats. Dated September 9, 1882.
- „ 4315. M. J. O'Riordan, of Cork, for improvements in boilers or apparatus for heating water, cooking, or other purposes. Dated September 11, 1882.
- No. 956. C. D. Abel—a communication from E. Oehlmann, of Berlin, Germany, for improvements in ventilating apparatus. Dated February 27, 1882.
- „ 982. C. P. Sharpley, of Captain J. Smith's, Brunswick House, 22, Villa-road, Brixton, London, for an improved method or means of and appliances for protecting seats from damp, dust, and other injurious deposits. Dated March 1, 1882.
- „ 1065. J. Wetherilt, of 10, West Chapel-street, Mayfair, London, Builder and House Decorator, for improvements in blinds or screens for windows. Dated March 6, 1882.
- „ 1093. R. W. Ralph, of Honnington-grange, near Newport, Shropshire, and W. S. Underhill, of Newport aforesaid, for improvements in apparatus for marking out lawn-tennis courts, such improvements being applicable also to apparatus employed for other purposes, turnip dressing for example. Dated March 7, 1882.
- „ 1098. J. M. Taylor, of Seer-green, Buckinghamshire, Clerk in Holy Orders, and G. Wethered, of Maidenhead, Berkshire, for improvements in means for working velocipedes. Dated March 7, 1882.
- „ 1114. W. Skaife, of the firm of Skaife and Company, of 671, Commercial-road, Limehouse, London, for improvements in lamps for bicycles, tricycles, and like vehicles. Dated March 8, 1882.
- „ 1155. E. Jones, of 30, Wellington-road, Edgbaston, Birmingham, for percolating coffee jugs. Dated March 10, 1882.
- „ 1177. J. D. Husbands, of Queen Victoria-street, London, for improvements in telephones. Dated March 10, 1882.
- „ 1181. J. Ridal, of Crosspool, Yorkshire, Manufacturer, for improvements in implements for pruning, hedge clipping, and other similar purposes. Dated March 11, 1882.
- „ 1192. W. R. Lake—a communication from E. J. Toof, of New Haven, Connecticut, United States, Manufacturer, for improvements in and relating to apparatus for folding, tucking, braiding, or similar purposes, and designed to serve as an attachment to a sewing machine. Dated March 11, 1882.
- „ 1194. W. R. Lake—a communication from E. J. Toof, of New Haven, Connecticut, United States, Manufacturer, for improvements in and relating to apparatus for ruffling, plaiting, or similar purposes, and designed to serve as an attachment to a sewing machine. Dated March 11, 1882.
- „ 1200. F. Des Vœux—a communication from R. Huebner, of Berlin, Germany, for improvements in mincing machines for sausage making and the like. Dated March 13, 1882.
- „ 1218. H. Beech—a communication from Elizabeth Ferguson, of Westminster, Ontario, Canada, for improvements in knife cleaners. Dated March 14, 1882.
- „ 1233. A. J. Boulton—a communication from C. T. Wheeler, of New York, United States, Gentleman, for improvements in needle woven tapestry and in fabric therefor. Dated March 14, 1882.
- „ 1238. H. Andrews, of 154, Wheeler-street, Birmingham, Press Tool Maker, for improvements in metallic fasteners for attaching buttons. Dated March 14, 1882.
- „ 1240. W. Hollingworth, of Bradford, Yorkshire, Boot Manufacturer, for improvements in the method of an apparatus for sewing leather or other material. Dated March 14, 1882.

Letters Patent have been issued for the following:—

- No. 20. J. Day, of Stafford, Boot and Shoe Manufacturer, for improvements in stitching machines, chiefly designed for use in the manufacture of boots and shoes. Dated January 3, 1882.
- „ 848. J. Humpage, of Brunswick-street, Bristol, Engineer and machinist for improvements in velocipedes. Dated February 21, 1882.
- „ 948. P. Molloy, of Limerick, for improvements in lamps and burners, and reflectors therefor. Dated February 27, 1882.

- No. 1257. W. Whiteley—a communication from R. N. Pratt, of Hartford, Connecticut, United States, for an improved construction of stop-valve. Dated March 15, 1882.
- „ 1289. W. H. St. Aubin, of Bloxwich, Staffordshire, Pattern Maker, for improvements in perambulators. Dated March 17, 1882.
- „ 1388. G. Kent, a Retired Chief Engineer, Royal Navy, of 332, Fratton-road, Buckland, Portsea, Hampshire, for improvement in chimney tops or ventilators for the prevention of smoky chimneys. Dated March 22, 1882.
- „ 1420. R. P. Pictet, of Geneva, Switzerland, for improvements in the manufacture of ice. Dated March 24, 1882.
- „ 1502. J. H. Johnson—a communication from S. Boston, of Philadelphia, Pennsylvania, and C. H. Wilcox, of New York, both in the United States, for improvements in methods of and apparatus for sewing and trimming knit goods and other fabrics, and in forming welts or hems therein. Dated March 28, 1882.
- „ 1579. D. Summerfield, of Aston, near Birmingham, Lock Manufacturer, for improvements in locks and latches. Dated March 31, 1882.
- „ 1607. J. Mathisen, of Christiania, Norway, for improvements in door locks. Dated April 3, 1882.
- „ 1931. R. P. Yates, of the firm of J. Yates and Company, of Birmingham, Edge Tool Manufacturers, for improvements in the manufacture of hoes, adzes, and mattocks. Dated April 22, 1882.
- „ 1970. J. T. King—a communication from S. Gissing, of Pittsburgh, Pennsylvania, United States, for improvements in nut locks. Dated April 26, 1882.
- „ 2116. A. W. Kershaw, of Lancaster, Auckland, for improvements in ventilators. Dated May 5, 1882.
- „ 2690. J. Wetter—a communication from the Eagle Metallic Brush Company, of the State of Massachusetts, United States, for improvements in brushes. Dated June 8, 1882.
- „ 2794. C. Hulseberg, of Finsbury, London, for improvements in boilers for heating greenhouses and other buildings by hot water, and in the manufacture thereof. Dated June 14, 1882.
- „ 2904. J. Nixon, of Oldham, Lancashire, for improvements in the construction of taps and valves. Dated June 20, 1882.
- „ 3062. W. R. Wynne, of the Holborn Lamp Works, 116, High Holborn, London, for an improved joint for detachable gas lamps. Dated June 29, 1882.
- PATENTS WHICH HAVE BECOME VOID:—**
- No. 3156. G. Singer, of Coventry, Bicycle Manufacturer, for improvements in roller bearings. Dated August 6, 1879.
- „ 3167. W. E. Hipkins, of Birmingham, Steel Toy Manufacturer, for improvements in cork-screws. Dated August 6, 1879.
- „ 3177. A. M. Silber, of 49, Whitecross-street, London, for improvements in gas burners. Dated August 7, 1879.
- „ 3201. J. Lokie, of Detroit, Michigan, partly a communication from C. Auringer, of Michigan, United States, for improvements in spring beds or mattresses, applicable also for couches and the like. Dated August 9, 1879.
- „ 3208. J. Lewis, of Birmingham, Metallic Bedstead Manufacturer, for improvements in metallic bedsteads, cots, sofas, and couches. Dated August 9, 1879.
- No. 3214. W. Harrington, of Richmond Barracks, Dublin, for an improved combined canteen, water bottle, and cooking apparatus for the use of soldiers and others. Dated August 11, 1879.
- „ 3246. B. Harlow, of Macclesfield, Engineer, for improvements in the construction of filters, also applicable to existing filtering apparatus. Dated August 12, 1879.
- „ 3264. J. Leech, of North Biddiek, Durham, for improvements in machines for manufacturing plate and other nails, spikes, and rivets. Dated August 13, 1879.
- „ 3266. J. Inray—a communication from A. Jullien, of Paris, for improvements in the manufacture of steel. Dated August 13, 1879.
- „ 3281. W. H. Thompson, of Queen's-square, Leeds, Plumber, and W. Dawes, of Kingston-grove, Leeds, Engineer, for improvements in water closets. Dated August 14, 1879.
- „ 3289. E. Pearson, of the Old Kent-road, and B. Jones, of Fenchurch-street, both in London, for improvements in water closets. Dated August 14, 1879.
- „ 3315. E. Peyton, of Bordesley Works, Birmingham, for improvements in metallic bedsteads. Dated August 16, 1879.
- „ 3332. C. A. Sundström, of Stockholm, for an improved pocket knife. Dated August 18, 1879.
- „ 3335. G. Thomas—a communication from A. Forsgren, of Falun, Sweden, for improvements in apparatus for catching rats and other vermin and animals. Dated August 19, 1879.
- „ 3384. C. E. Pecl, of Swansea, for improvements in the construction and arrangement of taps or cocks for drawing off the contents of casks and other closed vessels. Dated August 22, 1879.
- „ 3403. F. L. Leech, of 15, Westbourne-grove, and E. Hollands of Halliwell-lane, both in Cheetham-hill, near Manchester, for the securing of windows either open, half open or part open, or closed full, and also to be self acting. Dated August 23, 1879.
- „ 3414. R. Gellhorn—a communication from W. J. Carnes, of Gonzales, Texas, United States, for seamless buckles. Dated August 25, 1879.
- „ 3418. J. Henderson, of Tayport, Fife-shire, and R. Lowe, of Dundee, Forfarshire, North Britain, for improvements in cooling warm water or other liquid, and in apparatus therefor. Dated August 25, 1879.
- „ 3429. E. Roberts, of Ruthin, Denbighshire, for improvements in domestic fire places. Dated August 26, 1879.
- „ 3455. E. Fox, of 10, Castle-street, Sheffield, for improvement in galvanizing or covering wire or other continuous lengths of metal with zinc, tin, copper, brass, nickel, or other metal, and in apparatus to be used for this purpose. Dated August 27, 1879.
- „ 3474. A. Villaret, of Marveljols, France, for a new or improved apparatus for turning pages of music books. Dated August 27, 1879.
- „ 3485. C. N. Eyland, of Walsall, Manufacturer, for improvements in buckles. Dated August 30, 1879.
- „ 3513. G. P. Chiles, of Southampton-buildings, London, for improvements in kettles, saucepans, and other vessels for heating water or for cooking. Dated September 2, 1879.
- „ 3518. M. Andrew, of Victoria, Australia, for improved apparatus for locking and preventing the rattling of window sashes. Dated September 2, 1879.
- „ 2893. C. Carter, of Brixton, London, for improvements in bicycles. Dated August 17, 1875

- No. 2931. E. Tomlinson, of 206, Old-street, City-road, St. Luke's, London, for a new apparatus or apparatus applicable to fire places, to facilitate the lighting, burning, and economising of fuel. Dated August 20, 1875.
- „ 2954. E. Smith, of Manchester, for improvements in self-acting catches or fasteners, for securing the doors of railway carriages, wagons, or trucks, and other kinds of door or gates. Dated August 23, 1875.
- „ 2982. J. B. Harris, of Castle Mills, Fountainbridge, Edinburgh, for new or improved belt fasteners. Dated August 25, 1875.
- „ 3046. A. M. Silber, of Wood-street, London, for improvements in lamps. Dated August 31, 1875.

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A young man bought an accordion and took lessons. A month later his wife presented with an heir. Not being able to hold its own the accordion is offered for sale.

DOMESTIC FILTERS.

There has of late been much difference of opinion expressed in regard to domestic filters. By some they are regarded as being most conducive to health, while others state they are nothing but appliances for accumulating filth and poisoning the water they are intended to purify. Touching on the subject in the following, which appeared a day or two ago in the *Daily News*, and which perhaps may be of interest to our readers. That Journal says:—

One of the reforms for which the Legislature has partially provided, and which is slowly coming into operation, is the abolition of our domestic cisterns. The next step to be taken is that of rendering our domestic filters needless. They may be numbered among household dangers. There is a very general impression that a filter is a filter, and that the water must of course be the purer for passing through one. Unfortunately neither of these propositions is necessarily correct. A filter is not always a filter strictly speaking, and if the truth were always known it would perhaps be found that the water is as often polluted as purified by percolating through one of these receptacles. It is obviously impossible for a small body of filtering material, whatever it may be, to continue indefinitely to abstract all kinds of impurity from water continually passing through it, without gradually accumulating such an amount of impure matter as must of necessity impair its efficacy. Some are disposed to believe that a filter acts merely as a strainer—that its action is simply and solely that of a colander, when it retains the green peas, or potatoes and lets the water run through. Others are of opinion that, in addition to this mechanical operation there is a chemical process going on. They contend that the work of the filter is in a great measure to bring every particle of impurity in the water into close contact with a particle of that condensed air which science has discovered clinging close round every granule of which the filtering substance is composed. The result of this close contact is that the impurity is not merely arrested but oxydised—in other words it is burnt up. It is not for us to decide in matters in which doctors disagree, but there certainly seems to be good reason to believe that both these processes—the mechanical and the chemical—go on together. But whether the process is chemical or mechanical, or both, the capabilities of the material gradually exhaust themselves. How soon they will be exhausted must, of course, depend in a great measure upon the character of the fluid filtered, and the nature of the filtering material; but sooner or later all virtue dies out of the apparatus. It is converted not merely into an inefficient filter, but into a most injurious source of contamination, and must be purified or renewed also together. The vast filter beds of the London Water Companies have to be renewed from time to time at a great expense, and there can, we suppose, be no doubt that the “imperfect filtration” to which the water examiners continually allude—without the slightest effect in the world apparently—is often due to neglect to renew these beds as soon as their exhausted condition requires it. It is the imperfect filtering of the Companies which makes the need of domestic filtration. This is often badly done, and there will be no security against contaminated water, till some such sources as the deep wells of the Kent Company supply all London. What is needed is a supply which, like theirs, needs no filtering at all.

SHUTTLE MECHANISM BRIEFLY REVIEWED.

By James Martin in Sewing Machine News.

My object in this article is to explain some points, common to all machines, so that anyone having a sufficient knowledge to “run” one machine, may not only be enabled to run another, but have a better command of the one in hand.

It may be taken as a general rule that very few people, out of the trade, thoroughly understand the mechanism of the sewing machine. It is therefore to the great majority in some respects a mystery, and it is occasionally accused by those who are not familiar with the machine of taking obstinate fits and working only when it pleases, or, at least, failing to work for no apparent reason.

Now, a thorough knowledge of the mechanism, and what the parts are intended for, would in a great measure, obviate this; for it need hardly be said, that what the machine will do to-day, it can be made to do to-morrow. The operator, therefore, being possessed of this knowledge, could set down with some degree of confidence, knowing that if no breakage of the mechanism occurs, a given amount of work can be accomplished in a given time, or if any hitch should occur, the remedy is at hand.

It is worth spending some little time to obtain this desideratum, although operators of machines, especially ladies, as a rule are averse to studying mechanism, generally looking upon it as something they are not expected to understand. On the contrary, it is very necessary that they should bring their minds to a little study of the mechanism, as much comfort and peace of mind will result therefrom.

In all sewing machines the object in view is simple enough. To make the stitch, to tighten it and to space its length; but the mechanism required to do this is from the very nature of the work to a certain degree intricate.

Simplicity, durability and speed are the objects constantly aimed at by the mechanic, and the efforts in this direction have produced endless plans for getting the different motions.

There are twenty different plans for getting so simple a thing as the “Tension”; and schemes innumerable have been devised for other parts; but the operator, in moving from one make of machine to another, has but to bear in mind, that the action of making the stitch, of tightening it and of spacing its length is common to both, and it is only the different arrangement of the mechanism required to do this, that has to be studied, to enable one to become completely master of it.

For simplicity of explanation let us take a shuttle machine, as this kind is of most common use. It may, however, be said that the remarks in reference to this machine will apply, mostly, to any other kind.

In this brief review I am obliged to go over some things that are simple and plain enough in themselves, for the sake of drawing attention to other things that are not so simple.

The stitch is formed by the shuttle-thread locking with the needle-thread, and this is done by the needle-thread throwing a loop through which the shuttle passes, leaving the end of its thread locked in the needle-thread, and both threads are then drawn into the cloth, at the locking.

Let us carefully examine how this is done. The machine is threaded and ready for sewing; the cloth is placed on the machine, but before proceeding to put it in operation, let us withdraw the slides which cover the shuttle so that the action of the needle and shuttle may be seen.

It will be noticed that the needle and thread are thrust down through the cloth, that the needle descends—in a slot made for the purpose—to the bottom of the race, that it then rises about a quarter of an inch, and throws out its loop of thread and there rests, until the shuttle has passed through the loop, and then the needle rises to its full height. Immediately the needle has left the cloth, the feed spaces the length of stitch required, and so on with every successive stitch.

It will be noticed, when the needle is at its height, that the thread from the “Tension” to the cloth, is stretched tightly, that there is no loose thread; but it is necessary that there should be, at a particular time, sufficient loose thread for the shuttle to pass through, and this loose thread is obtained by the aid of the “Take-up.” The object of the “Take-up or Hold-up”—which, in some arrangement of the thread on certain machines, it may more fitly be termed—is to hold up the thread until the eye of the needle has touched the cloth, so that the thread is not entangled with the point of the needle, while descending, and then let go, giving sufficient thread for the shuttle to pass through, after which it takes up the loose thread.

(To be continued.)

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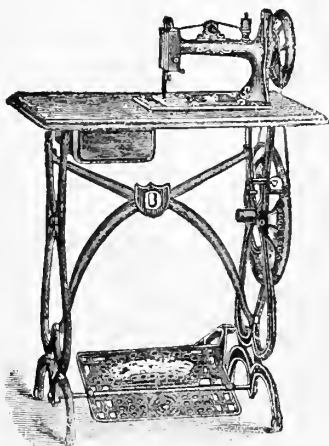
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3, with Flexible Sides for Tricycles	7 6 "
4, do. do. with Roll at Back	10 6 "

These Saddles for 1882, have several very important improvements, and are acknowledged to be **the most comfortable seat** for Bicycle or Tricycle, that are in the market. They afford great ease to the rider when riding over rough and bad roads, and on long journeys. The Seat is soft, and the edges being flexible, they give to the weight of the rider, and do not chafe the same as hard edges of ordinary saddles.

All kinds of Stampings, Rims, Spokes, Backbones, Hollow Forks, Hubs, Bearings, Pedals, Springs, Lubricators, Oil Cans, Saddles and Bags, Bells, Lamps, and all parts finished, and in the rough.

Price Lists and Testimonials free from the Works,

**ALMA ST. ASTON NEW TOWN,
BIRMINGHAM.**

G. MADER & MÜLLER,
SCHMALKALDEN, GERMANY.
MANUFACTURERS OF SCREW DRIVERS.

Price lists post free on application.

JOURNAL OF DOMESTIC APPLIANCES

AND

Sewing Machine Gazette.

IT is marvellous what wonderful progress has been made during the past few years in the manufacture of every description of domestic appliances. The old ugly and wasteful fire place has given way to most economical ranges; a knife is no longer cleaned by insertion in the ground or by a rub on a sand strewn piece of wood, but in a knife cleaning machine, of on a properly prepared board; in the laundry the sturdy muscle of our grandmothers have given place to wonderful washers and wringers; the roasting jack has superseded the unreliable piece of worsted suspended from a fork rudely thrust in the mantleself;

weary eyes and fingers have been relieved by the sewing machine and the rushlight no longer gives a faint glimmer, but oil and gas through wonderfully contrived burners, illuminate the room.

Altogether a modern house fitted up with the newest appliances presents a striking contrast to those of half a century ago. The present time is not only notable for its many inventions, but also for its facilities for making them known, and we no doubt owe a great deal of our domestic comfort to the fact that through exhibitions and the Press inventors have helped and benefitted each other. There is yet scope for many improvements in all household appliances, which, no doubt, will gradually receive the attention of the trade. There is no reason why we should not have machines for scrubbing floors, cleaning windows, blacking stoves, and doing many other kinds of domestic drudgery.

ENGLISH gas stove manufacturers must certainly look to their laurels, for at a recent meeting of the North British Association of gas managers, held in Edinburgh, Dr. Stevenson Macadam read a long paper on experiments he had made with the gas stoves of Messrs. Waddell and Main, of Glasgow, Mr. Wilson, of Leeds, and Mr. John Wright, of Birmingham. He gave the palm to those made North of the Tweed, which, he said, gave a purer white light, better adapted for cooking meat, and which preserve the juices.

At the Preston show the awards seem to have been pretty lavishly distributed. Messrs. Clapham Brothers, of Keighley, were the recipients of a silver medal for the Wellington cooking range. Messrs. Moore, Murton & Varley, of Keighley, were awarded a silver medal for their combined mortising and boring machine, and Messrs. Thomas Bradford & Co. received a gold medal for a butter worker.

SEWING MACHINE NOTES.

Our American cousins are very jubilant that their exports of sewing machines are steadily increasing. They have reason to be, for the statistics of the past nine months show that they have exported £70,000 more in value from the port of New York than in the corresponding period of last year.

This augmented export is no doubt due in a great measure to increased trade in England and other European countries.

An exhibition of art needlework is to be opened shortly at Leamington. Valuable prizes will be awarded and the exhibits offered for sale if desired.

The Griscom motor is, we hear, being well taken up by the trade, who are pleased at having secured a motor which is perfection itself.

In the Gazette columns our readers will find that Mr. Hopkinson, of Peckham, is described as being a bankrupt; and Mr. Williamson, of Hereford, has filed his petition.

THE JOHNSTON RUFFLER COMPANY make an attachment expressly for shirring. It consists of their ordinary ruffler with the lower spring attached to the slide of the sewing machine instead of to the ruffler. The shirring attachment will be supplied to any desiring it at the same price as the ruffler.

THE ELASTIC LOCK-STITCH SEWING MACHINE COMPANY has been formed to work the letters patent No. 4,594, dated Nov. 13, 1878, granted to William Fairweather for improvements in sewing machines. It has been registered with a capital of £2,200, in £5 shares. The subscribers are:—

G. Hodgkinson, merchant, Manchester	...	...	100
John Hope, merchant, Manchester	...	...	13
J. Holroyd, machinist, Hulme, Manchester	...	...	20
J. E. Vos, merchant, Manchester	...	...	30
R. F. Pul, manufacturer, Ardwick, Manchester	...	...	30
R. Denham, clerk, Manchester	...	...	10
W. Fairweather, machinist, Manchester	...	...	20
J. Sturgeon, agent, Manchester	...	...	20

EXPORTS AND IMPORTS OF SEWING MACHINES DURING SEPTEMBER.

EXPORTS.

(From London.)

Cape of Good Hope—6 sewing machines.	
Demerara—10	ditto
Auckland—£370,	ditto
Madras—6	ditto
Port Natal—42	ditto

(From Liverpool.)

Algiers	...	10 cases sewing machines.
Alicante	...	13 ditto ditto
Baltimore	...	5 ditto ditto
Boston	...	1 ditto ditto
Havana	...	5 ditto ditto
Lisbon	...	124 ditto ditto
	...	2 ditto ditto
Rosario	...	4 ditto ditto
Rio Janeiro	...	3 ditto ditto
Seville	...	89 ditto ditto
Valencia	...	32 ditto ditto
Bombay	...	13 ditto ditto
Gibraltar	...	1 package ditto
Melbourne	...	66 cases ditto
Para	...	185 ditto ditto

IMPORTS.

(Into London.)

Sewing Machines.—Horne & Crampton, £486, from United States; Short, Short & Co., £55 from Germany; E. H. Rolfe, £1,805 from Holland; Rosenberg, Loewe & Co., M. D. Co., £800 from United States; H. Loog, £500 from Germany; Horne & Crampton, £763 from United States; Gordon & Gotch, £99 from United States.

(Into Liverpool.)

Sewing Machines.—M. A. Brown, £181; H. Taylor, £24; M. A. Brown, £75; Bahr, Behrend & Ross, £5; A. P. Law & Co., £50; A. Booth & Co., £50.

THE SEWING MACHINE.

A saint I come to every home,
And, by my presence cheery,
I banish care, and burdens bear
Of women worn and weary.

I run so light, I look so bright,
The ladies dote upon me;
No noise I make, no threads I break,
Though back and forth you run me.

Through every kind of goods I go—
Silk, muslin, cloth, and leather;
Should all machines refuse to sew,
Still I'd sew on for ever.

No heads I pain, no eyes I strain,

To find the way to thread me :

No hole have I, save needle's eye,

To be a cause to dread me.

I am cheap and good, and if you should

But for a moment doubt me,

Be sure you try, and then you'll buy.

And never be without me.

I seam, I hem, I fell, I bind ;

I ruffle, tuck and gather ;

And all machines I leave behind,

While I sew on for ever.

GAS HEATING APPLIANCES.

We are, it seems, on the verge of a revolution in the kitchen. The development of electricity as a domestic lighting agent has stimulated the gas companies to make a new bid for public favour, which, if successful, will go far to solve sundry and divers questions of great social importance. One metropolitan gas company, indeed, has already announced that it is prepared to lend on hire stoves of approved manufacture for heating and cooking purposes; and although under the circumstances, this is not a very surprising innovation, the announcement that the "company will fix the stoves, find the material, and make all necessary connections at cost price," argues the approach of an epoch of civility, which is a new departure and a significant sign of the times. We have, indeed, been so long accustomed to send for and fix the companies' meters ourselves, that it is very refreshing to hear we are likely to have our convenience studied at last. There are, too, not wanting other signs which predict the possibility of gas superseding coal, for culinary purposes at any rate, at no very distant date. The national affection for an open fire-place will, probably, long prevent its adoption as a means of warming our rooms and houses, and, indeed, few of its present adaptations for this purpose, in spite of their names, are calculated to inspire many people with such confidence as to induce them to undertake the necessary re-construction of their grates. So great, too, is the charm of the fireside to most people, that such ever recurring annoyances as smoke, dust, the sweep, and the coal bill, have been unable to oust it from the place it holds in their affections, and not even the newest thing in German stoves can seduce them from their allegiance. The development of gas lighting appliances for cooking purposes has, however, recently made great strides, and from the undoubted capabilities of many of these we may reasonably expect some definite results.

To predict that the oracles of the kitchen wedded as they are to wanton wastefulness and prodigal profusion, will look with any favour upon "arrangements" which would probably result in a considerable saving in time, fuel, and labour would be foolish, but the possibility, or rather probability, of insubordination in this quarter could be contemplated with some complacency if we could really convince ourselves that gas would become a means of saving labour to so great an extent that its adoption might help to solve the servant difficulty. This, in itself, would also give it an undoubted claim to the attention of the public, for there is no doubt that the difficulties of English family life are continually increasing. The necessity for economy and thrift is daily becoming more and more widely felt, and the great obstacles to retrenchment in most houses are the traditions of the kitchen. At no time have labour-saving appliances of all kinds been in such demand as now, and if the adoption of gas ovens and stoves can help us in this way it will be a great point in their favour. The enormous wastefulness of the kitchen grate is, too, a fact of which the most unpractical householder soon becomes aware by sad experience. The British cook prides herself upon her bright fire, and for this purpose sets apart for her own use the best of the coal, the "slack" being quite good enough for upstairs. The kitchen fire indeed, is con-

tinually undergoing the process of being "made up," and the only time when its capabilities of roasting an ox, are doubtful, is when a little extra cooking is required to be done. Let any one judge for himself by glancing as he passes by into the kitchens of a fairly well-to-do metropolitan street, and while he cannot fail to be struck with the air of opulent comfort which there reigns supreme, he may well wonder, as he notes the huge fire blazing on nearly every hearth, to what purpose is all this waste. The same plea of wastefulness has frequently been urged as an objection to the use of gas as fuel, and doubtless, if its consumption were left to the uncontrolled discretion of a probably hostile servant, the amount of the gas bill would be prodigious. This drawback, however, has been obviated with some success by one patentee by the simple device of arranging boiling burners in such a way that the gas must either be turned down or the pots boil over. A contrivance by which water can be almost instantly heated before it passes through the supply tap is certainly one of the most convenient of modern inventions, and this arrangement is nearly as perfect as possible if it is attached to the cold-water tap, since cold water can be obtained as readily as hot if the gas be not lighted or extinguished when no longer required. To anyone who has experienced the costliness of laying on a hot water supply on the old system this apparatus must commend itself.

Among other advantages, perhaps, its cleanliness will influence most people in favour of the use of gas as fuel. The saving in menial, or rather dirty work, effected in this way would not only be economical, but might, not improbably go some way towards accomplishing that social revolution which must occur before the mistresses of most households can also be mistresses of their kitchens. It is also idle to deny that, "unless the men of the next generation can find useful wives, matrimony will become for them even a greater difficulty than now," and there is little doubt that the proper method of making self-help more practicable to English households is by the reduction of the amount of dirty work, which is most costly and offensive, and the introduction of a simplicity and cleanliness which would make much of the ordinary domestic work of such a nature that a lady might undertake it. As things are now constituted, most men remain unmarried until they are middle-aged, since it is impossible for them to reconcile themselves to the notion of their wives becoming drudges, but if much of the necessity for drudgery were removed, marriage would become possible at a much earlier age upon conditions which few right-minded Englishwomen would shrink from. The chief objection to gas is the rapidity with which it vitiates the atmosphere, and before it becomes generally adopted some means of ventilation without reducing the amount of heat derived from it, is very necessary. Already results have been obtained which satisfactorily prove that most culinary operations can be performed by its aid with perfect success, and our present system of ventilation is not so perfect but that an improvement on it induced by the use of gas as fuel, would be an additional boon to the community.

A LAMP BRACKET that is safe, convenient, and maintains the lamp upright in various positions of the bracket, has been patented by Mr. Morton L. Munson, of Charlotte, Mich. The bedpiece of the bracket is so constructed that it may be attached to a dish or other convenient place. On the face of the bedpiece is a semi-circular slotted piece, and pivoted at the centre of the semicircle is an arm on which the lamp is carried. This arm has secured to it a bolt which passes through the slot, and has a nut on the opposite side by which the lamp may be secured in any desired position.

A young man bought an accordion and took lessons. A month later his wife presented him with an heir. Not being able to hold its own the accordion is offered for sale.

NOTES ON NOVELTIES.

AN ORNAMENTAL IRON TABLE.

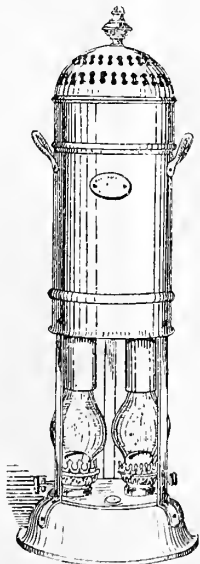
Our illustration shows a very artistic iron table which is made for refreshment bars, cafés, or to support fern cases and similar



articles. It is made by the Britannia Company of Colchester, who are also makers of treadle circular saws, lathes, sewing machines, and many other articles.

THE MULTITUBULAR PETROLEUM STOVE.

This stove, which was first shown to the public at the Manchester Smoke Abatement Exhibition in April last—where it obtained a

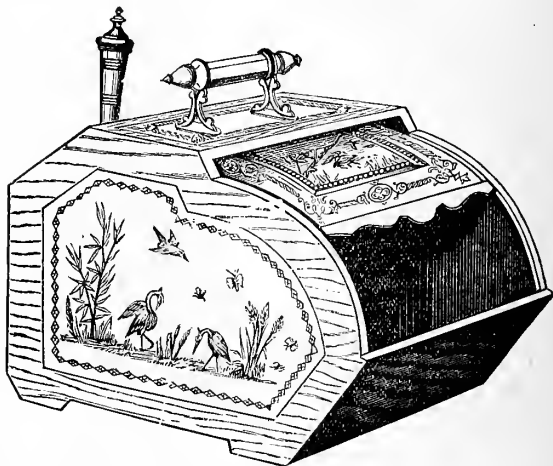


high reward—while giving out a great amount of heat throws out

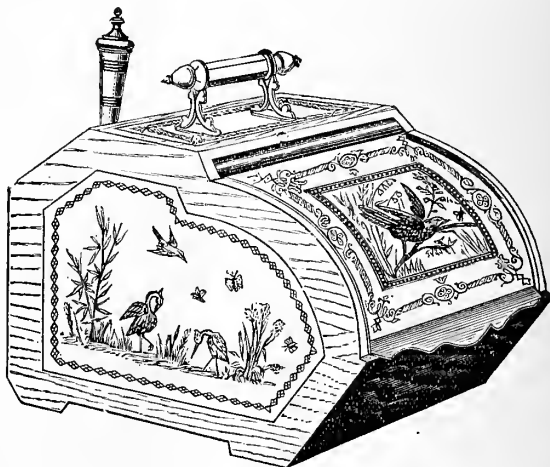
the full light of a lamp. It produces neither smoke nor smell, and is a handsome addition to a hall, office, conservatory or greenhouse. The stove can also be used for cooking purposes and its cost is only a farthing per hour. The manufacture of this useful novelty is Mr. W. Thornburn, Boroughbridge, Yorks.

THE "IMPERIAL" COAL BOX.

This receptacle for fuel, which is made of wood, is most handsomely embellished with metal decorations. Plaques of metal nickel-plated brass, 'panel sides,' and the lid, made of the same



material, partly revolves under the wood top to which the handle is affixed. Many other articles, in which artistic stamping is a feature is made by this manufacturer.—Mr. Green, of Charlotte-street,



Birmingham. Our illustrations will give a good idea of these elegant utensils.

A METALLIC BASKET.

Tourists, bicylists, and those who require to carry refreshments on the road, will find this a very handy little receptacle for something wherewith to support the inner man. It is made to

imitate brown wicker work, and has a false bottom—if required—to hold any liquid. The basket is made with a leather handle, and for the convenience of bicyclists straps are supplied to attach it to



the machine. We recommend this little article to the trade as a novelty likely to find a good sale next spring. The manufacturer is Mr. Blandon, of James-street, Birmingham.

THE WIRRAL AND BIRKENHEAD AGRICULTURAL SHOW.

A good display of agricultural and dairy appliances was made at this exhibition, which opened on the 14th ult. Mr. George Hathaway of Chippenham, showed a good double oscillating crank churn: the Aylesbury Dairy Company, Limited, of London, exhibited a new butter worker for salting or washing butter, and machines of a similar nature were shown by Messrs. Hancock and Co., of Dudley.

BRISTOL GAS EXHIBITION.—Among other exhibits at this exhibition, in which there are no fewer than 800 exhibits, are Mr. J. Wright and Co., Messrs. H. C. Davis and Co., Messrs. Strode and Co., and others.

WALKER AND CO., Liverpool, were awarded a silver medal by the judges at the recent show of the Wirral and Birkenhead Agricultural Society for their exhibits of heating apparatus and greenhouse.

CITY AND GUILDS OF LONDON INSTITUTE FOR THE ADVANCEMENT OF TECHNICAL EDUCATION.—Owing to unavoidable delay in the completion of the workshops, and the laboratory fittings, the opening of the Technical College, Finsbury, is postponed until January. Arrangements, however, have been made for carrying on the work of the college during the winter term in all its departments in the temporary class rooms of the institute, Cowper-street, Finsbury.

DANGER FROM GAS CHANDELIERS.—Mr. A. W. C. Shean, Captain and vice-President of the Fire Brigade Association of the United Kingdom, 18, Finsbury-circus, writes to point out that at this season of the year, when many people leave their houses in charge of housekeepers, there is an urgent necessity of some one seeing that the hydraulic gas chandeliers are properly charged with water. Almost every house in London has a gas chandelier capable of being moved up and down, and the cup to which the chains are attached should be kept full of water. While in command of a fire station in the metropolitan area, Mr. Shean witnessed the effect of many distressing accidents caused by neglect in properly charging these chandeliers with water. Only a few rooms in the house being used by the housekeeper, and the remainder closed, the heat of the weather naturally facilitates the drying up of the water; an escape of gas takes place, goes on for some time without being noticed, and in the end is generally sought for with a light, the consequence being an explosion, with more or less disastrous effect. Mr. G. W. Bell, of the Law Fire Office, has supplemented this advice by suggesting to householders that when the tube of the chandelier has been nearly filled with water, an inch of oil be added. The apparatus is then permanently safe, and the water will not evaporate.



STEALING PRIVATE MEMORANDA FROM A FIRM OF GAS ENGINEERS.—At the Birmingham Police Court, on the 12th ult., Samuel Vicary Bird, 22, clerk, was charged with stealing a number of private notes containing private memoranda of Messrs. John Wright and Co., Essex Works, Birmingham, his employers. Having reason to suspect the accused, Mr. J. F. Wright went to the office rather earlier than usual, and opened Bird's desk. In it he found a paper showing that the prisoner was making a copy of a valuable patent about to be brought out by Messrs. Wright. The prisoner was asked what he was making the sketch for, and he replied for his own use. When the prosecutor told him to turn out his pockets, a list of customers was discovered. He was then given into custody. The prisoner pleaded "Guilty" and was sentenced to three months' imprisonment.

DISPUTE ABOUT A SEWING MACHINE.

(At the City of London Court.)

The plaintiff was Mr. Solomon Davis, sewing machine manufacturer, Cheapside, and the defendant (for whom Mr. T. D. Pettiver, solicitor, College-hill appeared) was Miss Sarah Taylor, of Fairlight-villas, Tottenham, the sum claimed being for one guinea due on the purchase of a machine. Mr. Pettiver said that the plaintiff agreed to let his client have the machine for three guineas, though it was now alleged that the price was four guineas. He believed that the plaintiff was in the habit of allowing 33 per cent. discount for cash. Plaintiff's representative replied that that amount of discount was only given to agents, who took a large number of machines, and were allowed the wholesale price in consequence. Defendant was called, and stated that she was induced to go to the plaintiff's warehouse because a neighbour had bought a similar machine from him for three guineas. She distinctly declined to pay more, as she could get the kind of machine she required at Tottenham for four guineas, whereupon the salesman said she might have it at her own terms, as he never liked to turn away a customer. The Registrar gave judgment for the defendant, with 15s. costs.

A SEWING MACHINE ON HIRE.

At Edmonton County Court, the case of Jones and Co., Limited, v. Frazer was heard. It was an action brought by a firm of sewing machine manufacturers carrying on business in Camden-town, to recover possession of a sewing machine from John Fraser, of 45, Warbury-road, Wood-green. Mr. Noten appeared for the Company saying that defendant had brought from Jones and Co. a sewing machine for £7, to be paid at the rate of 10s. per month. They had only been paid two instalments, and now sought to recover the value of the machine itself. A proper agreement had been entered into and signed by the defendant. His Honour said it seemed to him that the defendant had had the use of the machine for two months, and plaintiffs had lost the sale for that time. The evidence called showed that the machine had been purchased in the usual way, and when an effort was made to recover it the servants of the company were struck by the defendant. Defendant's wife said she had sent the machine back to the Wood Green office two months after the purchase. The agreement purporting to be signed by her husband did not bear his signature. She was quite certain on that

point. Defendant denied having signed the agreement, and said he never spelt his name with a "z." He had no connection with the case; his wife might have had, but he knew nothing about it. There was a machine at his house, but he could not say if it came from the plaintiffs. The first time he saw it was when a party came about it, and that was about the end of August. It had been there a short time then. By the Judge: He believed it was August 1881, that a man called upon him about the machine, but he knew nothing about it. On being asked if he had paid the money, he said he knew nothing of it. He could not say who paid the amount for the machine; he had no more to do with the matter than a child, he never received a letter from Messrs. Jones and Co. His wife sent the machine back because he would not allow it to remain in his house. That was about the end of August. He sent it to Wood Green by Cope, his labourer. He knew nothing about the handwriting in the book. It was not his. When the man came about the machine he spoke to his wife about it. She kept it in the front parlour, but he did not see it as he did not go there. He was then living at 2, Hornsey-villas, Hornsey-road. Alexander Cope said he took the machine back in August, 1881, by order of the defendant. He carried it to Jones's shop at Wood Green. It was eight o'clock at night when he took it, and he gave it to a bald-headed man, who said he would see defendant about it. He could not tell what day of the week it was; the defendant paid him for the job. Mrs. Fraser, wife of defendant, said she told Cope to take the machine back to Wood-green, and gave him a shilling for doing so. It was about noon when he took it. Her husband knew nothing about the machine. The agent who induced her to take the machine called upon her in June, 1881. She told him her husband would not pay for it, and he told her she could do so. She signed for the machine, and paid the money unknown to her husband. She never had a book from the plaintiffs, and if they said so it was false. Thomas Taylor, in the employ of the plaintiffs, said he called at the defendant's house in July, and saw Mrs. Fraser. He told her not to pay any more money to the late agent of plaintiffs. She then paid witness something on account. He believed he wrote a receipt in her book. He saw the machine in the front parlour. Henry Whitehouse, late collector to the plaintiffs, said he called at the defendant's house at Hornsey in September, 1881, when Mrs. Fraser paid him 2s. 6d. on account of the machine. He wrote a receipt on paper. Next week he called again, and she paid him 2s. 6d. more. He called again a fortnight after and found the defendant had gone away in the night. John Jones, a private detective, proved that he had traced the defendant to his present residence after great trouble. The Judge gave a verdict for the plaintiff, and said he believed the machine had not been returned. He pointed out the discrepancy between Cope's and the wife's evidence, as to the time they said the machine was taken back. A witness said he called twice in September, and was paid by the wife, who would not have done so if the machine had been returned. Mrs. Fraser admitted she had the machine against her husband's wish. He believed the defendant knew the machine was in his house, and not returned. His Honour ordered the machine to be returned forthwith, with costs, on payment of £7, as claimed.

ELECTRIC LIGHT FOR PICTURE GALLERIES.

As is well-known, electric lamps may be divided broadly into two classes:—1st. "Arc" lamps, in which the light is produced by the current (or arc) playing across a break in the circuit between two carbon points which are thereby raised to such a temperature as to emit a light. The carbon points, being exposed to the air, burn away; it is, therefore, necessary that the lamp should be provided with mechanism to move forward one or both carbons so as to maintain a proper distance between the points, and it is on the perfection of this mechanism that the steadiness of the lamp to a large extent depends.

2nd, "Incandescent" lamps, in which there is no actual break

in the circuit, but in which the light is emitted by a piece of material of high electrical resistance (usually a thin filament of carbon) which is introduced into the circuit and is usually covered by a glass globe from which the air has been exhausted so that no combustion of the light giving material may take place.

There are some few lamps which do not quite come into either category, but are intermediate between the two.

Arc lamps are of much higher illuminating power both absolutely and in proportion to the mechanical power required to work them than incandescent lamps; they consume carbons, however, and require trimming and adjusting, whereas the power to drive the machine is the only source of expense in working incandescent lamps. The latter are very steady, whereas arc lights, generally, are more or less unsteady and frequently are noisy. The colour of the incandescent lights varies somewhat with the strength of the current employed, but it appears usually to be almost as yellow as that of gas light. This for domestic and social purposes is probably an advantage, but it renders these lamps unsuitable for use where colour has to be studied. The colour of the arc lamps when ground or opal glass globes are used approximates very closely to that of bright daylight.—

"I know that most people believe the light to be more blue than daylight; but I am inclined to believe that this is merely the effect of habit. The eye is accustomed to an orange colour in artificial light, and therefore a white light seen at night looks blue. A Brush lamp burning in daylight, to my eye at least, has a yellow rather than a blue tint. It is well-known to all of us how blue the morning light let into a ball-room, where we have been dancing all night, looks."

The principal points to be considered in the selection of a system of lighting are:—

1. The steadiness of the light itself and its suitability as to power, colour, &c., for the purpose to which it is to be applied.
2. The constancy of working of the machine and lamps, their freedom from getting out of order.
3. Their durability.
4. The arrangements of the lamps in their circuits, and the number that can be worked from one machine.

The cost of working, *i. e.*, the cost of the mechanical power necessary to produce a certain amount of light, and for the carbons consumed.

6. The cost of the apparatus.

It is with regard only to the first of these points, and to a limited extent to the second, that any conclusion can be arrived at by a visit to an exhibition. Although a careful examination of the apparatus may give a notion as to its durability, it is evident that this can be determined only after experience extending over a longer time than the period of an exhibition, and that to arrive at the working cost, trials over a considerable time are necessary. With regard to this latter point there will be much valuable information in the report, which it is to be hoped will be published, of the jury of experts who have been determining with regard to each system of lighting the quantity of electric energy necessary for the production of a certain amount of light and the cost of producing this energy, in other words, the horse-power necessary to produce the requisite amount of electric energy, and the fuel, &c., required to develop this horse power.

Information as to the 4th and 6th points can doubtless be obtained without going to an exhibition, though it is satisfactory to see for one's self the actual arrangement of the lamps, &c., when at work, and to see also exactly what you get for your money.

The steadiness and the constancy of any of the lights must depend largely on the supervision exercised, and therefore in these respects lamps would probably show more favourably in an exhibition were the exhibitors naturally find it worth while to go to considerable expense in the matter, than in ordinary use where expense of supervision has to be carefully considered.

(To be continued in our next.)



BILLS OF SALE.

Perry, T., brass cabinet lock maker, 13, Drayton-street, Dudley-road, Wolverhampton; £85. In favour of T. Bunch. Filed Aug. 26.

Andrew, J., ironmonger, 2, Almer-terrace, Stretford-road, near Manchester; £35. In favour of I. Fineberg. Filed Aug. 14.

LIQUIDATIONS BY ARRANGEMENT.

Barker, E. D., East Greenwich, engineer.

Blews, W. & Son, Birmingham and Moscow, brassfounders, &c.

Binns, T., Bloxwich, iron merchant.

Glydon, W., Birmingham, metal roller.

Hackett, W. S., Birmingham, fender manufacturer.

Kempe, W. & Co., Leeds, machine makers.

Neumann, M., Sheffield, dealer in crown plate.

Nathan, H., Aldershot, cutlery, &c., dealer.

Pepper, E. S., Hinckley, Silversmith, &c.

Williamson, T., Hereford, sewing machine factor.

Adams, T. W., brassfounder, Dacre-street, Taylor-street, Birkenhead.

Allard, H., perambulator maker, Great Hampton-street, late Digbeth, bell maker, both Birmingham.

Richards, R., ironmonger, Chatteris, Cambs.

Long, W., Leeds, agricultural implement dealer.

Guest, J., jun., brass and ironfounder and lock maker, trading as J. Guest & Co., Frederick-street, Walsall.

Penny, T. A., ironmonger, Linthorpe-road, Middlesbrough.

Copeland, C., ironmonger, Belgrave-gate, Leicester.

Anni, F. W., Hardware merchant, Holborn-viaduct and Cannonbie-road, Forest-hill.

Appleton, H. M., brass fitting and lamp manufacturer, New Cut, Lambeth, and Amhurst-road, Hackney, late Downs Park-road, Lower Clapton.

Bessant, T., manufacturer of brass furniture for bedsteads, Caroline-street, St. Paul's-square, Birmingham, and Wills-street, Lozell's, Birmingham.

Eyre, J., Hotspur-street, Kennington-road, brassfounder.

Fellows, T., Dudley, fireiron manufacturer.

Phipps Bros., Soundwell, ironfounders.

Stierlin, A., Manchester, machinery agent.

Whittle, J., Wigan, engineer.

BANKRUPTS.

Hopkinson, W., Peckham Rye, London, sewing machine agent.

Winstanley, T., Wigan, brassfounder.

DIVIDENDS.

Appleton, C. L. (Bkt.,) ironmonger, Shepton, Mallett, Somerset. First dividend of 2s. at T. Denman's, Princes-street, Yeovil.

Harrison, W. bedstead manufacturer, the Lund, Ulverston and Birmingham. Dividend of 2s. 6d. at R. Casson's, Ulverston.

Hodgson, J., (Liq.,) ironmonger, &c., Heekmoundwike. First and final dividend, of 1s. 4d. at J. Firth, Northgate, Cleckheaton.

Davies L., trading as W. Davies and Son., (Liq.,) iron and brass founder, Britonferry. First dividend of 10s., between 10 and 4, at J. Colquhoun's, Tredegar.

Jewhurst, R., (Bkt.,) ironmonger, Margate. First dividend of 9d., at D. J. Poole's, 4, Cecil-square, Margate.

Welham, F., Great Yarmouth, ironmonger; second and final dividend of 1s. 8d., at Mr. L. Blake's, Hall Quay Chambers, Great Yarmouth, any day.

PARTNERSHIPS DISSOLVED.

Bright and Garrard, Carmarthen, engineers.

Cumming and Carr, London, lamp manufacturers.

Fassnidge Brothers, Uxbridge, ironmongers.

Filds, J., and Co., Newton-heath, ironmongers.

Jackson, H., and Easden, J. A., Cambridge, cutlers, &c.

McInnes, and Brownlie, Manchester, engineers.

Alfred S. Oerton and Son, Walsall, ironmongers.

Young and Buss, ironmongers, Blandford-street, Portman-square, and Blenheim-street, New Bond-street.

Greaves Brothers, Leeds, file-cutters.

Teasdale Betis and Co., King William-street, metal merchants.

Dowbiggin, J., and Whiting, A. L., Ancoats, iron merchants.

Lane, A., and Dunn, W., West Bromwich, bolt and nut manufacturer.

Oerton, A. S., and Oerton, A., Walsall, ironmongers.

Pritchard, T. Doughty, and Todhunter, J. M. H., Bridge-street, Manchester, iron merchants, trading as T. Pritchard and Son,

Ralls, J., and Ralls, R. C., Bridport, ironmongers.

TRUSTEES APPOINTED.

Pryce, T., trading as T. Pryce and Co., (Bkt.,) ironmonger, Essex-road, Islington. Trustee, E. J. Abbott, accountant, Colmore-road, Birmingham.

Williams, W. (Liq.,) ironmonger, Llangeftni, Anglesey. Trustees, F. G. Butler, Factor, Wolverhampton, and W. Thomas, accountant, Llangeftni.

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A WRITER in a magazine says the earth would be heated more than one hundred and ninety thousand degrees by being suddenly stopped—that is, "it would at once become more than sixty times as hot as melted iron." Any man who, knowing these facts, attempts to stop the earth, ought to be severely dealt with. He would burst up all the coal dealers, and throw skate manufacturers into bankruptcy.

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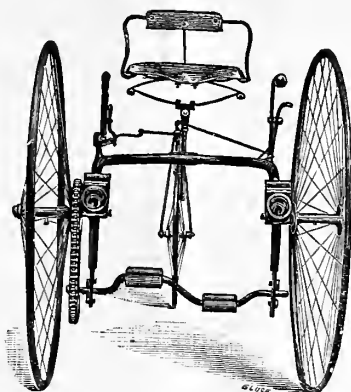
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50 "	7 15 0	58 "	8 15 0
Hollow Forks		10s. extra.	

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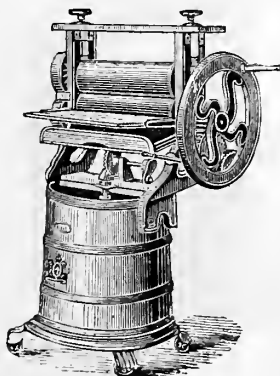
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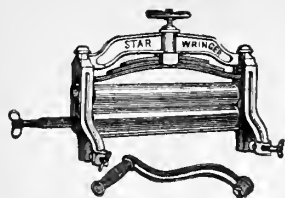
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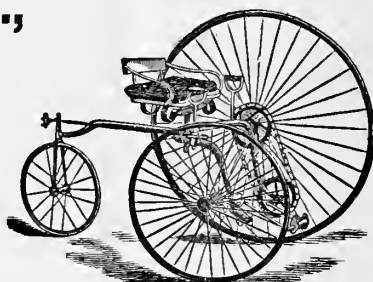
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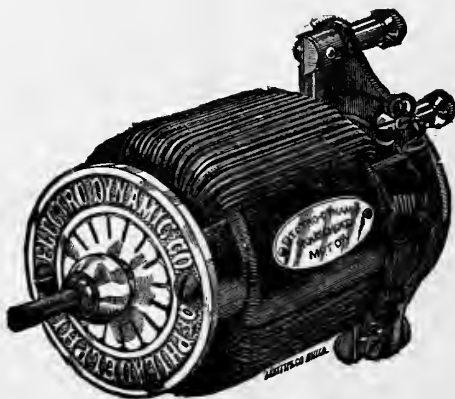
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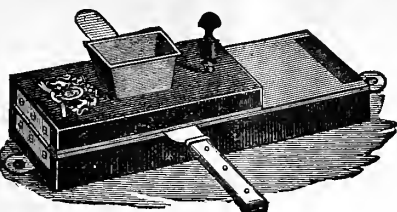
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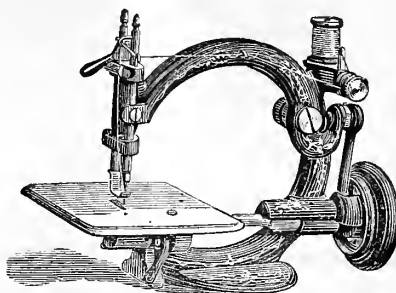
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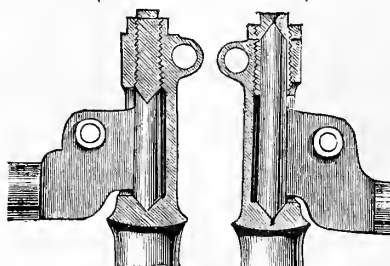
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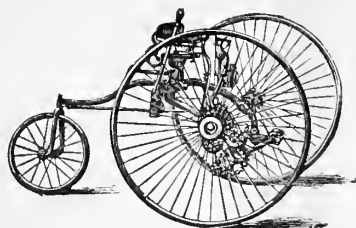
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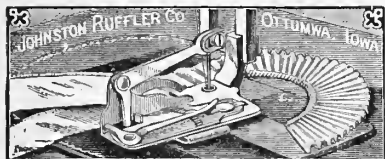
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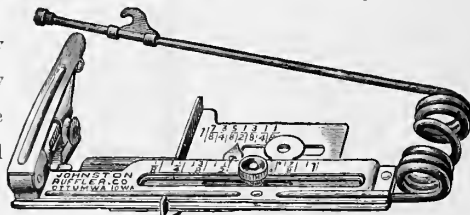
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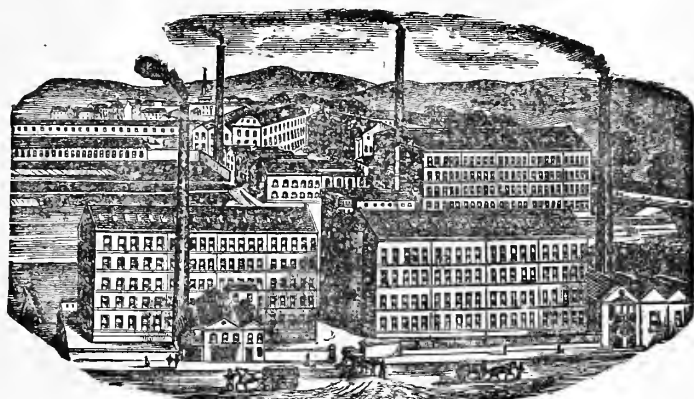


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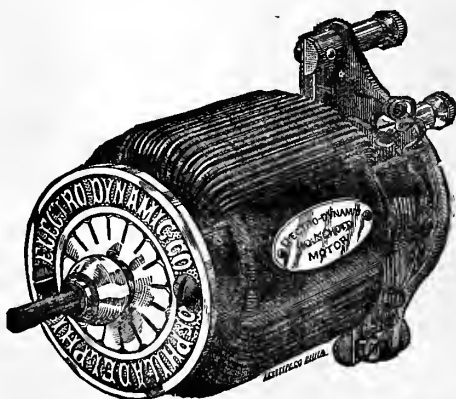


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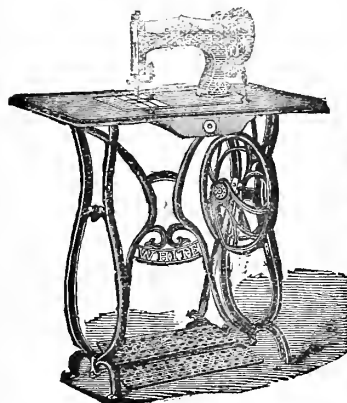
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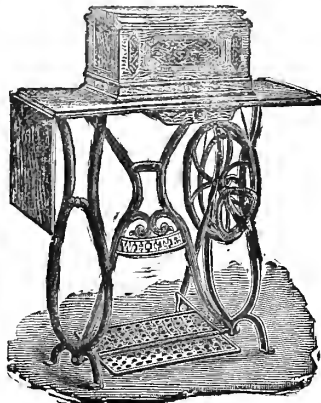
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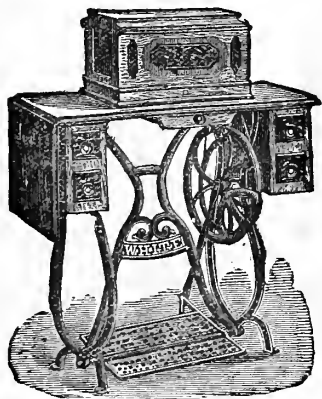
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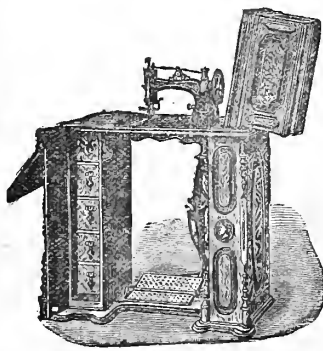
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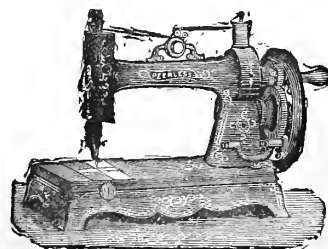
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Hand Shuttle Sewing Machines.



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LIBERAL TERMS TO RESPONSIBLE
DEALERS AND AGENTS

* All Sewing Machine Agents, Dealers, and Operators are invited to call and inspect this—the latest Improved and Best Silent Lock-Stitch Shuttle Sewing Machine—or send for Pamphlets, Circulars, &c., to

WHITE SEWING MACHINE COMPANY

19, Queen Victoria Street, London, E.C.

GRITZNER & CO.,

Patentees,
DURLACH, GERMANY.



LOOSE BALANCE WHEEL.

NICKEL PLATED.

CASTERS IN STAND.

CONICAL BEARINGS.

Woodwork of Best Material,
and very Ornamental.

AUTOMATIC BOBBIN WINDER.

Extra Large Bandwheel.

The Best Thread Cutter,

Patent Belt-replacing Device.

FULL SET OF ATTACHMENTS.

Nine Presser Feet.

Pendulum Treadle.

Highly tasteful Ornamentation in
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*Fine Workmanship and Extra
Finish.*

**The best situation for Export
(on-the-Rhine).**

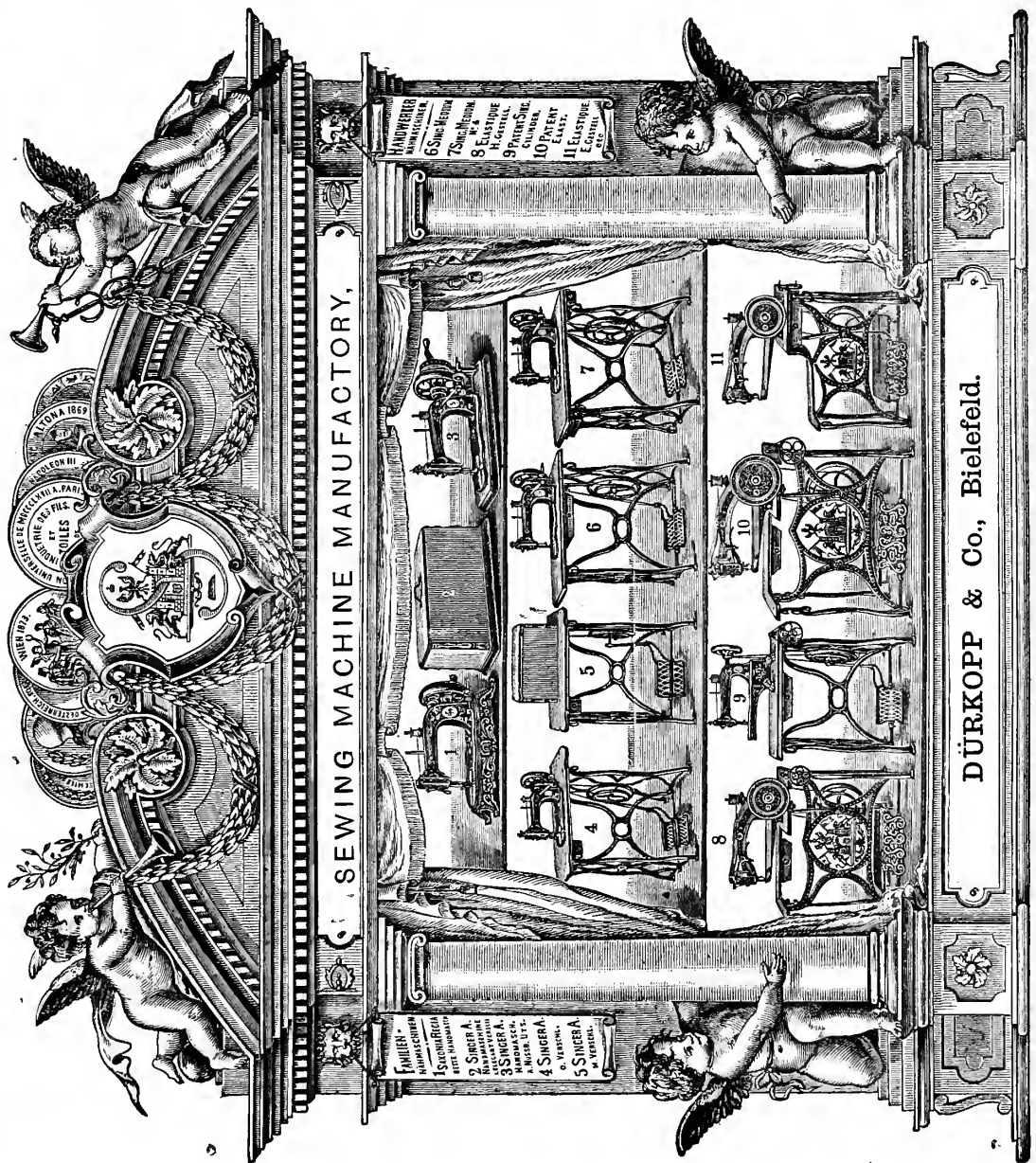
Manufactory of Sewing Machines & Cabinet Furniture

Latest Improvements in Sewing Machines & Cabinet Work.

SPECIAL ATTENTION given to Packing and Orders for Export.

The handsomest and most complete ! The latest ! The best satisfaction !

THE CHEAPEST !



FOR PARTICULARS, APPLY TO

C. LOHMANN, 43, London Wall, LONDON, E.C.,

Wholesale Agent for Great Britain.

The only GOLD MEDAL for Boot and Shoe Machinery awarded at the Paris Exposition was for the Machinery of the

ENGLISH AND AMERICAN SHOE & GENERAL MACHINERY COMPANY, LIMITED.

A Great Variety of
MACHINERY

EDGE TRIMMING



FOR
Heel Nailing & Trimming
AND SETTING.

HEEL BLOCKING, RAND AND WELT CUTTING,

RAND TURNING,

Self-Feeding Eyelet Machines

Self-Feeding Punches, Double and Single Fitting.

MACHINES FOR PUTTING IN ELASTICS,
STRAIGHT AND CIRCULAR BEADERS.

And a great variety of other Machinery and Patented Tools.

Many of our Machines may be seen in motion at the Company's Warehouse,
No. 1, WORSHIP STREET, FINSBURY, E.C.

Raw Hide Mallets and Hammers for Shoe Manufacturers and Machinists.

ROLLERS, PRESSES, KNIVES AND IRON OR WOOD LASTS.

1, WORSHIP STREET, LONDON, E.C.

THE SINGER MANUFACTURING COMPANY,

The largest Sewing Machine Manufacturers in the World.

Upwards of 538,609 of these CELEBRATED MACHINES were Sold in the year 1880, being at the rate of over 1,800 for every working day.

THE GREAT SALE affords most convincing proof of their popularity and value, and is attributable to the reputation obtained for

Excellence of Manufacture, Strength and Beauty of Stitch;

AND FOR THEIR

Perfect Adaptability to every Class of Sewing.

PRICE

from

£4 4s.

FOR CASH

from

£4 0s.

May be had on "Hire, with option

of Purchase," by paying

2/6

PER WEEK.



No Household should be without one of the Family Machines, which are unequalled for all Domestic Sewing. So simple, a child can work them.

MANUFACTURERS should see the Manufacturing Machines!

Are unsurpassed for the Factory or Workshop!

CAUTION!

BEWARE OF IMITATIONS! Attempts are made to palm them upon the unwary under the pretext of being on a "SINGER Principle" or "System."
To AVOID DECEPTION buy only at the Offices of the Company.

THE SINGER MANUFACTURING COMPANY

(Formerly I. M. SINGER & Co.),

Chief Counting-House in Europe—39, FOSTER LANE, E.C.

323 Branch Offices in the United Kingdom.

LONDON DISTRICT OFFICES:

195, Holloway Road, N., 3, Castle Street, Kingsland High Street, N.,
51, High Street, Camden Town, N.W.

147, Cheapside, E.C.
132, Oxford Street, W.
81 & 83, Newington Causeway, S.E.
149, Southwark Park Road, S.E.
278, Clapham Road, S.W.

144, Brompton Road, S.W.
269, Commercial Road, E.
174, Hackney Road, E.
45, Broadway, Stratford, E.
8, Ordinance Row, Barking Road,
Canning Town, E.

6, High Street, Woolwich.
7, Kew Road, Richmond, S.W.
1, Clarence Street, Kingston, S.W.
131, South Street, Greenwich, S.E.
44, North End, Croydon, S.E.

THE SINGER MANUFACTURING COMPANY

(Formerly I. M. SINGER & CO.),

MANUFACTURERS OF SINGER'S SEWING MACHINES.

Chief Counting House in Europe:

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147, Cheapside, E.C.; 132, Oxford Street, W.; 51, High Street, Camden Town, N.W.; 31 and 33, Newington Causeway, S.E.; 149, Blue Anchor Road, Bermondsey, S.E. (now 149, Southwark Park Road); 278, Clapham Road, S.W.; 144, Brompton Road, S.W.; 269, Commercial Road, E. (corner of Bedford Street); 174, Hackney Road, E. (opposite Weymouth Terrace); 3, Castle Street, Kingsland High Street, N.; 1, Surinam Terrace, Stratford, E. (between Swan and Bank); 1, Rathbone Street, Barking Road, Canning Town, E.; 7, Kew Road, Richmond, S.W.; 1, Clarence Street, Kingston, S.W.; 131, South Street, Greenwich, S.E.; Croydon, 4a, North End.

PROVINCIAL OFFICES:

ENGLAND.

Accrington, 9, Peel-street
Aldershot, Victoria-road
Alfreton, 68, King-street
Ashford, 17, Marsh-street
Ashton-u.-Lyne, 246, Stamford-st.
Aylebury, Silver-street
Bakewell, North Church-street
Banbury, Market Place
Barnsley, Eldon-street
Barrow-in-Furness, 11, Dalkeith-street
Bath, 5, Quiet-street
Batley, Commercial-street
Bedford, 36, Midland-road
Bicester, Sheep-street
Biggleswade, Shortmead-street
Bingley, Main-street
Birkenhead, 164, Grange-lane
Birmingham, 98, New-street
Bishop Auckland, 29, South-rd.
Bishop Stortford, Wind Hill
Blackburn, 544, Church-street
Blyth, Woodbine-ter., Waterloo
Bolton, 52, Newport-street
Boston, 34, Market-place
Bradford, 38, Mechanics' Instt.
Braintree, 7, Fairfield-road
Brentwood, 3, Crown-street
Brighton, 6, North-st., Quadrant
Bristol, 18 & 19, High-street
Bromley (Kent), 18, High-street
Bury, 110, St. James'-street
Burlington-on-Trent, 76, Guild-street
Bury-St.-Edmunds, 78, St. John-st.
Cambridge, 17, Petty Cury
Canterbury, 6, High-street
Carlisle, Lorne-bldgs., Bank-st.
Chatham, 342, High-street
Chichester, High-street
Chelmsford, High-street
Cheltenham, 34, Pittville-street
Chester, 68, Foregate-street
Chesterfield, 1, Corporation-bldg.
Chichester, 54, East-street
Chorley, 30, Clifford-street
Chichester, 3, Crown-street
Clitheroe, 39, Wellgate
Coalville, Station-street
Colchester, 32, St. Botolph-street
Colne (Lancashire), 8, Arcade
Congleton, 12, Fleet-street (oy Bablake church)
Crewe, 67, Nantwich-road
Darlington, 10, Prebend-row
Darford, 16, High-street

Deal, 124, Beach-street
Denbigh, 36, Park-street
Derby, 22, Wardwick
Dewsbury, Nelson-street (top of Daisy-hill)
Doncaster, 23, Scot-lane
Douglas (Isle of Man), 6, Strand-street
Dover, 9, Priory-street
Dudley, 10, Church-street
Dover, 217, Wolverhampton-st.
Durham, 3, Neville-street
Eastbourne, 46, Terminus-road (two doors from post office)
Eccles, 31, Church-street
Exeter, 19, Queen-street
Folkestone, Market-place
Gloucester, 116, Westgate-street
Grantham, 11, Wharf-road
Gravesend, 20, New-road
Grimsby, 37, Freeman-street
Guernsey, 17, Smith-street
Guildford, 161, High-street
Halstead, 63, High-street
Hanley, 48, Piccadilly
Harrogate, 11, Westmoreland-st.
Hastings, 48, Robertson-street
Heckmondwike, 2, Market-street
Hednesford, Station-street
Hereford, 67, Commercial-street
Hertford, Forden House, Ware-road
Hexham, 20, Market-place
High Wycombe, 123, Oxford-rd.
Hinckley, Castle-street
Huddersfield, 8, New-street
Hull, 61, Whitefriar-gate
Huntingdon, High-street
Ilkeston, 75, Bath-street
Ipswich, 19, Butter-market
Jersey, 144, New-street
Keighley, 2, Market-place
Kendall, 3, Wildman-street
Kidderminster, Bull Ring
Lancaster, 19, Brock-street (corner of Penny-street)
Leamington, 35, Windsor-street
Leeds, 14, Boar-lane
Leek, 27, Russell-street
Leicester, 44, Granby-street
Lewes, 164, High-street
Liverpool, 21, Bold-street
Longton (Staffs.), 12, Market-ter.
Loughborough, 44, Market-place
Lowestoft, 123, High-street
Luton, 32, Park-street
Lynn, 9, Norfolk-street
Maidstone, 8, King-street

Maldon, High-street
Manchester { 105, Market-street
 { 132, Cheetham-hill
 { 438, Stretford-road
Manningtree, High-street
Mansfield, 32, Nottingham-street
Market Drayton, Church-street
Market Harborough, Victoria House, street, W.
Middlesbrough, 59, Newport-road
Morley, 4, Bradford-buildings, Chapel-hill
Newark, 15, Kirkgate
Newcastle-on-Tyne, 16, Grainger-street, W.
Newcastle-under-Lyne, 34, Bridge-street
Newport (Mon.), 23, High-street
Newport (I. of Wight), 91, Pyle-st.
Newton Heath, 622, Oldham-road
Northampton, 3, Market-square
Northwich, 17, Witton-street
Norwich, 55, London-street
Nottingham, 20, Wheelergate
Oldham, 70, Yorkshire-street
Openshaw, 37, Ashton-old-road
Ormskirk, 58, Aughton-street
Oswestry, Bailey-street
Otley, 34, Kirkgate
Oxford, 3, New-road
Penrith, 8, Castlegate
Peterborough, 53, Narrow Bridge-street
Plymouth, 3, Bank of England-pl.
Ponteract, 11, New Market-hall
Portsea, 165, Queen-street
Preston, 147, Friargate-street (opposite Lune-street)
Ramsgate, 31, West Cliff-road
Ravensall, Bank-street
Reading, 61, London-street
Red Hill, High-street
Retford, 3, Grove-street
Ripley, Market-place
Ripon, 1, Blossom-gate
Rochdale, 66, Yorkshire-street
Romford, Market-place
Rotherham, 109, Main-street
Rugby, Lawford-road
Runcorn, High-street
Ryde (Isle of Wight), 78, Union-st.
Saffron Walden, Church-street
Salisbury, 56, Fisherton-street
Salford, 4, Cross-avenue, and 100, Regent-road
Scarborough, 30, Huntriss-row

Seetholme, Basford-road
Sheffield, 37, Fargate
Shipley, 19, Kirkgate
Shrewsbury, 4, Market-street
Sittingbourne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 25, Gaol-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, 67, Church-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadincote, Station-street
Swindon, 52, Regent-street
Tamworth, 54, Church-street
Taunton, Bridge-street
Torquay, 58, Fleet-street
Truro, 19, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-road
Wednesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Wincobur, 64A, Peasod-street
Windsor, Over-lane
Wirksworth, North-end
Wisebush, 61, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-Road
York, 24, Coney-street

WALES.

Abergavenny, 19, Market-street
Aberystwyth, Market-hall
Builth, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Llamas-street
Carmarvon, 5, Bridge-street
Dolgelly, Market-hall
Merthyr Tydfil, Victoria-street
Newtown, Market-hall
Pontypool, Market-hall
Pontypridd, Market-hall
Swansea, 103, Oxford-street

SCOTLAND.

Aberdeen, 225, Union-street
Aberroath, 159, High-street
Ayr, 80, High-street
Banff, 17, Strait-path
Cupar, Fife, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princess-street
Elgin, 215, High-street
Forfar, 28, Castle-street
Galashiels, 62, High-street
Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st.
Hamilton, 32, Cadzow-street
Hawick, 3, Tower-knope
Inverness, 14, Union-street
Kilmarnock, 83, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 61, Murray-place
Yn, Lanington-street
Thurso, Princess-street

IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballinacorney, 67 and 68, Church-st.
Belfast, 3 & 4, Donegal-sq., N.
Carlow, Tullow-street
Coblenze, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
Galway, Dominick-street
Kilrush, Moore-street
Kingstown, 65A, Lower George-st.
Limerick, 31, Patrick-street
Londonderry, 1, Carisle-road
Mullingar, Greville-street
Navan, Tringate-street
Newry, 18, Sugar-island
Parsonstown, 2, Seffins
Queenstown, Harbour-row
Sligo, 45, King-street
Tulace, 40, Bridge-street
Waterford, 124, Quay
Wexford, Belakare-street

ELIAS HOWE SEWING MACHINES,

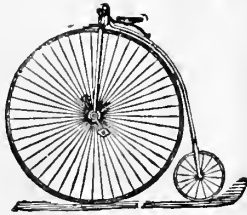
ADAPTED FOR EVERY DESCRIPTION OF WORK.

Families will find no other Machine which will do the same range of work. Sewing from the finest Muslin to several plies of heavy Cloth.

Dressmakers who once use THE HOWE give it the preference over all others for beauty and durability of Stitch.

PURCHASE NO MACHINES

Complete with all Appliances from £4 4s.



The Howe Machine Co. are also manufacturers of Bicycles and Tricycles.

THE HOWE BICYCLE, Price from **£15 15s.**. Possesses all the latest improvements, and will be found unrivalled for quality of workmanship and material. See Special Lists.

THE HOWE TRICYCLE, Price **£16 10s.**

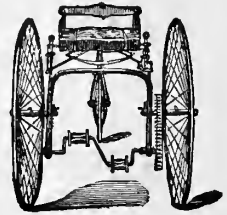
A Machine designed on the Best Mechanical Principles.

Manufacturers of Boots and Clothing, who carry on a high-class trade, ONLY USE THE HOWE MACHINE.

A trial is all that is necessary to convince those in want of a Sewing Machine that THE HOWE is entitled to pre-eminence over all others.

WITHOUT THIS TRADE MARK.

Price Lists and Samples of Work post free.



THE HOWE MACHINE COMPANY (Limited), 46 & 48 Queen Victoria Street, London.
Factory: Avenue Street, Bridgeton, Glasgow.

RAYMOND'S CANADIAN SEWING MACHINES.

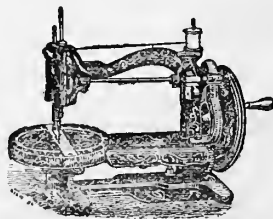


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c. — (See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



ALSO

£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work. Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder.

Testimonials, Prospectuses, Samples of Work, and all particulars free on application.

Raymond's No. 1 and 2 TREADLE MACHINES for Families, Dressmakers, and Manufacturers

AGENTS WANTED.

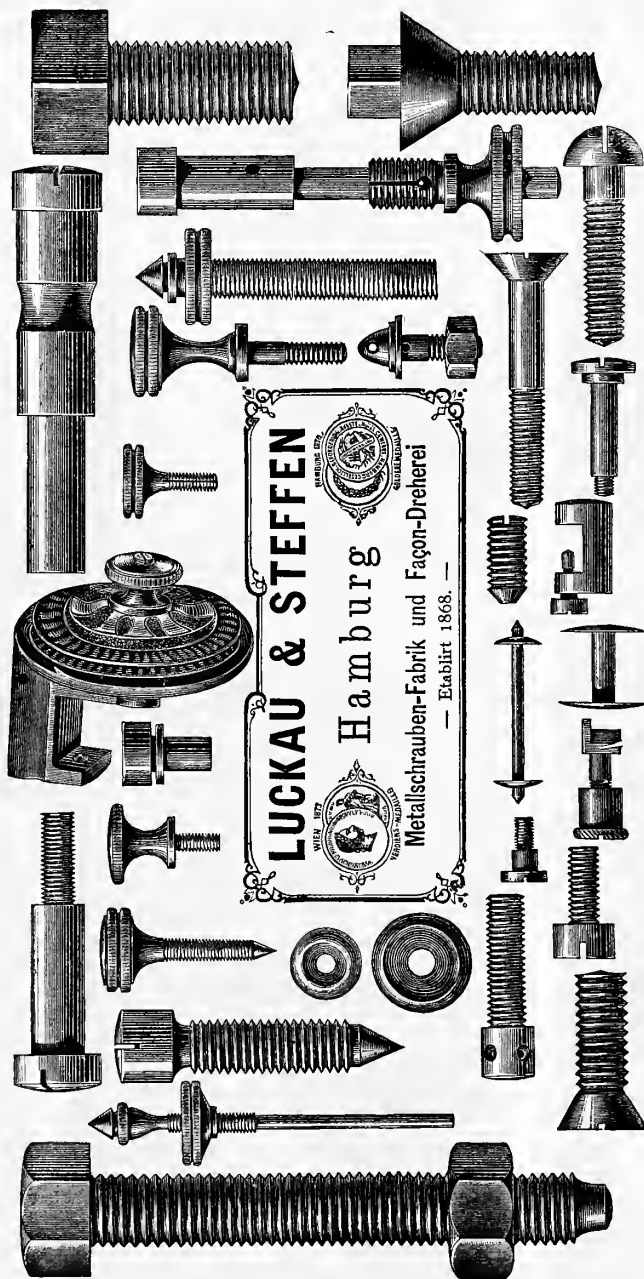
CHIEF DEPÔT FOR EUROPE AND EXPORT:

11, MOUNT PLEASANT, LIVERPOOL.

P. FRANK, AGENT.

ESTABLISHED 1863

LUCKAU AND STEFFEN, HAMBURG.



PRIZE MEDALS, VIENNA, 1873; HAMBURG, 1876.

Manufacturers of Metal Screws, &c.

ESTABLISHED 1868.



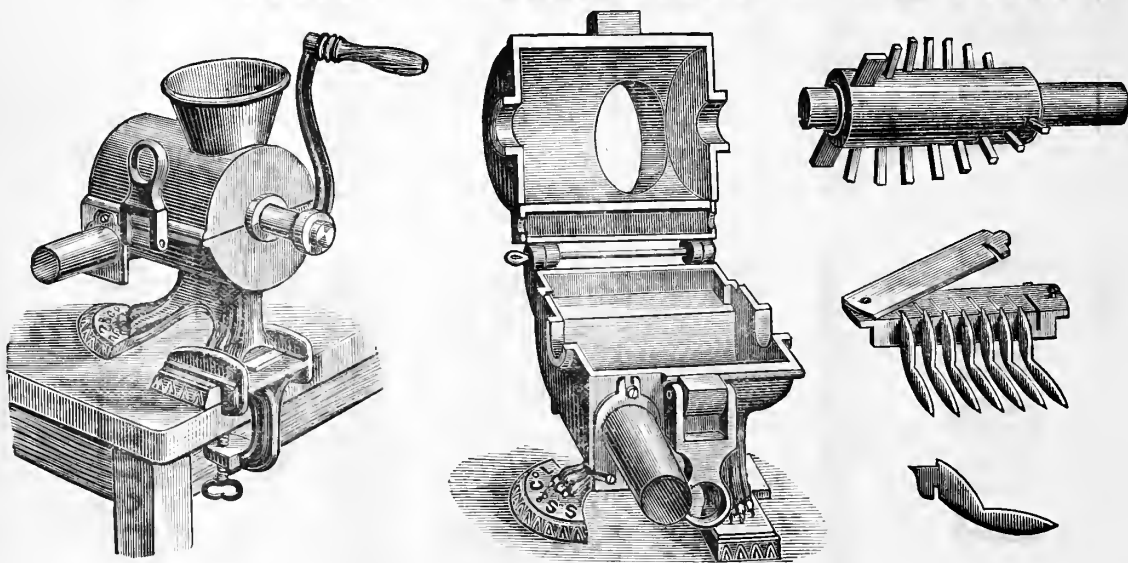
VARLEY & WOLFENDEN KEIGHLEY, ENGLAND.

SOLE MANUFACTURERS OF THE
CYCLOPS CELEBRATED
LOCK STITCH SEWING MACHINE,
FOR DOMESTIC AND MANUFACTURING PURPOSES,
TO WORK EITHER BY HAND OR FOOT.

These Machines are made from the Best Materials, and cannot be surpassed for excellency of finish and durability.

SHIPPING ORDERS EXECUTED ON THE SHORTEST NOTICE

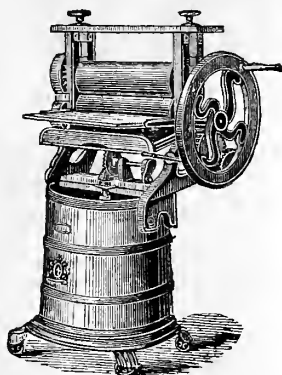
THE PATENT 'VICTORIA' MINCING MACHINE



The knives are held in position by dropping them separately into slots cut in a moveable knife bar, and are efficiently prevented from moving by means of a swivelling top plate, which covers the slots, thus preventing any substance getting into them. The knives are interchangeable, and, having two separate blades, they mince the meat in one half the time and twice as fine as the ordinary mincing machines. The revolving cutters are square steel teeth, or pins, with sharp edges fitted into a solid roller. All metals injurious to the health are avoided—no lead, tin, or zinc being used. The machines are of iron, enamelled and of best finish, and fasten to the table by means of a clamp, the knives being of the best cast steel.

SELIG, SONNENTHAL & CO.,

Sole Licensees of the Patent "Victoria" Mincing Machine, the Patent "Austria" Skate, the "Easy" Lawn Mower,
85, QUEEN VICTORIA STREET, LONDON, E.C.

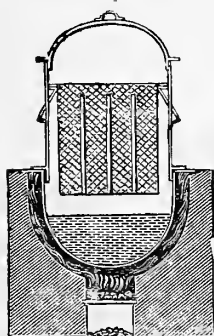


HOLMES, PEARSON & MIDGLEY,

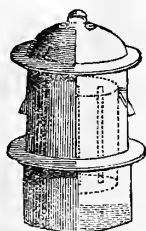
MANUFACTURERS OF
 WASHING, WRINGING, AND MANGLING
 MACHINES,
 Fruit Dresser. Sugar Cutter, Chaff Cutter,
 MORTICING MACHINES AND CIRCULAR SAW BENCHES.

PRICE LIST ON APPLICATION.

Manufactory-Royal Ironworks, Halifax Road, Keighley.
 London Office—5 New Street, Bishopsgate, E.C.



No. 2.—Washer as fixed
 on top of copper.



No. 1.—Washer and
 Boiler complete.

FOR SALE.

"MAGIC STEAM WASHERS."

No. 1 Size, 10 in.	-	-	-	-	at 15s. each.
" 2 " 18 in.	-	-	-	-	22s. 6d.,
" 2 " 20 in.	-	-	-	-	30s. "
" 2 " 24 in.	-	-	-	-	42s. "

Sent on receipt of P.O.O. or Cheque payable to

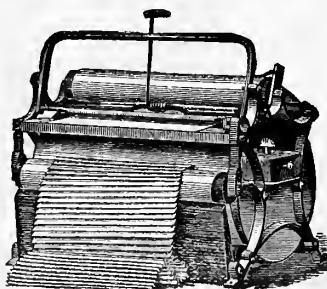
T. BROOKS,

20, WORMWOOD STREET, LONDON, E.C.

THE

KENDALL PLAITING MACHINE.

This Kilting Machine was patented in America, June 29, 1880, but has only recently been introduced here. It is a very effective machine, and will work from 50 to 80 plaits per minute, all size plaits up to $1\frac{1}{4}$ inch and any width to 12 inches. The speciality of



this plaiter is that it is heated by oil lamps, and is available in houses where there is no gas supply. For the village dressmaker we know it will be just the thing desired. It is very simple, and easy to manage.

A SAMPLE MACHINE sent on receipt of remittance, 25s., payable to
T. BROOKS, 20, Wormwood Street, London, E.C.

THE "WANZER

LOCK-STITCH, HAND OR FOOT, SEWING MACHINES.

First Prize Medals, Honours & Awards, wherever Exhibited.



WANZER "A"

IS THE

Great Mechanical Success of the Age.

It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

THE NEW "LITTLE WANZER."—Entirely reconstructed and improved. Nickel-plated, Loose Wheel, New Patent Shuttle, Take-up Lever and Spooler. £4 4s.

WANZER "A," Simplicity Itself.—The most powerful yet light running Hand Machine, straight race. £4 4s.

WANZER "C" Light Foot Family Machine, entirely New, with every improvement up to 1879. £6 0s.

WANZER "F" Family Machine, with Reversible Feed and Stitch Lever. £7 10s.

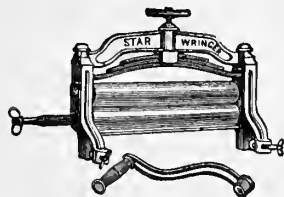
WANZER "E" Wheel Feed Machine, for heavy work of all kinds. £8 8s.

WANZER PLAITING, KILTING AND BASTING MACHINES,

Over 200 varieties of perfect Plaiting or Kilting, from 30s. complete. *The only Machine Kilting and Basting at one operation.*

The Wanzer Sewing Machine Company,
LIMITED,

Chief Office—4, GREAT PORTLAND ST.,
OXFORD CIRCUS, LONDON, W.



STAR WRINGER.

This Wringer is of an entirely new and neat design, has a novel attachment whereby the Wringer can be fixed most firmly in a few moments to Washing Machines, or any Wash Tub, either round or square

Prices.—12-in. 18s. 6d.; 14-in. 20s. 6d.; 15-in. 22s. 6d.

Trade Terms on application.

BEVERIDGE & ROBERTSON,

Manufacturers of Mangles, Washing Machines, Wringers, &c.,
KIRKCALDY, N.B.

THE ELECTRIC AND MAGNETIC APPLIANCE STORES,

(Electricians and Contractors),

30, LIVERPOOL STREET, E.C.

Electric Apparatus of every description. Electric Bells, Burglar and Fire Alarms, &c., fitted to Theatres, Hotels, Private Houses, &c., on shortest notice, for the Trade.

TELEPHONE LINES CONSTRUCTED AND MAINTAINED.

ADVANTAGES.—Where Electric Bells are used there can be

No Burglaries. No great Damage by Fire. No breaking down of front door Bells. No saying the Bell did not ring. No inattention when Sick. No entering the lodge gates without notice. No movement of door or window without an alarm. No excuse or pretence for attempted robbery. Distance no object. The Thief's Enemy. Life Protector. Property secured. Efficiency. Economy. Durability. Elegance. Reliance. Security. Simplicity.

Estimates for fitting free to the Trade. Experienced Workmen sent to all parts.
Price lists and full particulars forwarded.

SEWING MACHINE NOTES.

Mr. G. H. PFAFF, of Kaiserslautern (Germany), is about to produce a gathering machine, it will be an imitation of the Heberling.

We hear that Messrs. Gritzner and Co., of Durlach, have finished the construction of a new sewing machine, which is said to be a marvel of perfection.

MESSRS. MOLLER AND BLUME, of Berlin, have just invented an hydraulic sewing machine motor. It is said to be making headway on the continent, but we have not yet seen one in this country, nor has it made its appearance in America.

In another column will be found an account of an alleged fraud committed by one Maurice Goldstein. The fraud is said to have consisted in advertising and selling to the public the "Speedwell Sewing Machines" for one shilling and two pence each. As this article consisted only of two rough bits of tin it is a libel on our trade to call it a sewing machine.

The "Speedwell" was said to hem, tuck, gather and do all sorts of fancy sewing. The advertisement of Maurice Goldstein is not the only one which has deceived and swindled the unwary public.

In another column will be seen the advertisement of the Universal Knitting Machine, which is sold in London by Mr. Gimson, of Dashwood House, Broad-street, E.C. Mr. Gimson is manufacturing many articles with these machines, with which he supplies drapers and hosiers. The Sewing Machine Agent should sell such articles, they would be profitable goods to keep, and certainly within the scope of his business.

Our contemporary the American Sewing Machine Journal says: The New York Sewing Machine Company have secured a patent on a neat little device to take the place of the rubber headed tuck used as a cushion under the bed of a sewing machine. It consists of a rubber cushion with a cork stem, the stem fitting snugly into a small hole in the table below the hole provided for the cushion. The whole device being elastic, it will not become hardened by use.

The Vertical Feed Sewing Machine Company, have hit upon a very good way of showing the working parts of their machine. In their window the Vertical is seen running, being worked by a motor below. A little way beneath the machine is a sheet of looking glass and in it is reflected the movement of the "feed" as it passes to and fro. The idea is a good one and as a good sewing machine motor can now be obtained of the Griescom Co., we recommend country agents, to show this sort of thing in their windows. It will prove a great attraction and a good advertisement.

Near the Great Eastern Terminus in London, is a sewing and domestic machinery shop kept by a lady named Mrs. Martin. Wishing to attract the attention of passers by, this lady ordered of a local tablet maker, a sign which was to bear in large bold letters the words "Martin's Depot for useful Domestic Inventions." This was accordingly supplied, and a charge of twenty-two shillings was made. But, however great a work of art the tablet may have been, Mrs. Martin did not approve of it; she was like our American Cousins, "big" in her notions and she at once returned the sign declaring it to be much too small and unattractive. The tablet maker did not relish the idea of making another in accordance with

the wish of Mrs. Martin, and not caring to loose his money, most ungallantly sued that lady, in the City of London Court. The judge heard both sides of the question: "Then" said he "shew me the sign." His Honour looked at it and said: "It is impossible to conceive a better advertisement," and he endorsed his opinion by giving judgement for the plaintiff with five shillings costs. Really Mrs. Martin should not want so much for her money.

OUR ILLUSTRATED SUPPLEMENT.

—O:—

The subject of our illustrated supplement in this month's issue, is evidence of the improvements in the adoption of every conceivable mode of reducing the actual labour in the manipulation of the sewing machine. The most remarkable of all domestic appliances for labour saving, the automatic bobbin winder has for some time been in general use under various adaptations to the sewing machine. The latest introduction on machines sold in Europe is the new Automatic Winder we illustrate, made by The White Sewing Machine Company, of Cleveland, Ohio, expressly for their machine. It is now applied to every machine, hand or treadle, sent out from the London Depot to all parts of the Eastern Globe, in the ramifications of the wonderful business so recently secured by this enterprising company. It will be observed that as far as mechanism is concerned the winder is simplicity itself, requiring but ordinary intelligence at once to perceive its great advantages. It fills the bobbin rapidly with a regularity that is equal in appearance to a spool of silk, thus giving the advantage of securing much more cotton on the bobbin than when filled in the ordinary manner, a matter of much import to the operator. To the trade we commend this the latest improvement in winders.

ONDERDONK PLAITER AND RUFFLER.

A recent and ingenious invention in the line of sewing machine attachments is the Onderdonk plaiting and ruffling attachment for sewing machines. It accomplishes in a very effective manner a very wide range of both ruffling and plaiting. Its principle of construction is that of a slide actuated by the rise and fall of the needle-bar, the slide moving alternately out and in. Under a portion of the left end of the attachment, certain mechanism is placed by which either of the two slides which are free can be locked with the fixed slide, so as to be carried out and in with it, there being three slides in all. Crimping blades are attached to each of the two free slides, between which the cloth passes, and which act upon it; one of these slides makes a fold in one direction, the other in the opposite, and they can be made to work in any desired order, and to make any form of plait, which is done by a varying lever. It is attached to the machine by a thumb-screw in the same manner as any other description of tuck-marker or plait ruffler. Plaiting can be made by the attachment and sewn into a band or garment at one and the same operation, an operation which is accomplished by placing the band or garment either below the lower (or left) crimping blade, or over the upper (or right) blade, and under a lift. Two bands may also be used, one being placed above and the other below the blades, with the plaiting between. Ruffling, side or knife plaiting, box plaiting, cluster plaiting and double box plaiting, can be done on the Onderdonk attachment with accuracy and facility.

The attachment is manufactured and sold by the Onderdonk Manufacturing Company, whose Office is at No. 69, Wall-street, New York. Sewing machine people desiring further particulars can obtain them promptly by sending to or calling at that address.

A recent philosopher discovers a method to avoid being dunned "How?—how?—how?" everybody asks. Never run in debt.

SHUTTLE MECHANISM BRIEFLY REVIEWED.

(Continued).

And now another point is to be here noticed. It is when the needle is in the cloth, that the shuttle forces a passage for itself through the loop, and the thread necessary for this purpose has to be dragged down through the cloth; a groove therefore is made in the needle to enable the thread to slip freely down.

The "Tension," or the arrangement for tightening the threads is completely under the control of the operator and is in itself so simple that any Tension in use may be thoroughly understood by anyone giving five minutes time to it.

The "Feed-Motion," or apparatus for spacing the length of the stitch, is next in order, and, in whatever manner that motion may be obtained, there are none so intricate but that a close application for a short time, will enable anyone to completely master it. The "four-motion-feed" is almost universally used and is the most simple. After the stitch is made, the feed rises, drags or pushes the work forward the length of the stitch required then drops and falls back to its first position. The length of the stitch is determined by the aid of a thumb-screw, which has simply to be turned out or in to lengthen or shorten the stitch, or moved from its position so as to alter the "throw" of a lever which acts upon the feed.

[Note.—It has been said that the needle rests while the shuttle is passing through the loop. The "Florence" machine is an exception to this general rule. The necessity for the needle resting is obviated by the shuttle throwing the thread on to a hook, in the face of the "shuttle race," which holds it, until the shuttle has passed through, when it releases itself.]

By understanding the mechanism, as above explained, the worker, in any trouble with the machine, can make sure where that trouble is and can the more readily apply a remedy; for the majority of troubles result from a want of knowledge of a something so simple in itself, that it is amazing that this knowledge has never been obtained. It is very often the case with a learner upon a sewing machine that she has been told to do a certain thing and a certain result would follow; but she has never taken the trouble to ascertain how this result was accomplished, hence the cause of trifling defects are not understood.

Many operators, who have had years of experience, and are worthy of admiration for the expert manner in which they "run" a machine, and for the skill and facility with which they manipulate the work, are often nonplussed at a trifling defect in the "Tension" or in some other part. For example, if the "Tension" be of the wheel kind, the rule is, perhaps, to put the thread once round the wheel, but from wear or other cause, the thread, in being put only once round the wheel, does not bite sufficiently to cause it to revolve in sewing, which it should do. This is apt to occur if a silk thread be used and if a strong tension be required.—The thread therefore slips upon the wheel and no stronger tension can be got than the tension resulting from the friction of the thread going round the wheel. It never seems to strike the worker that the thread should bite upon the wheel, sufficient to pull it round, and that the simple plan of putting the thread twice round the wheel, would at once rectify the trouble.

The object of the "Tension" is to regulate the strain upon both threads that—provided the cloth be thick enough—the locking of the threads will sink out of sight in the cloth. To do this properly and to produce perfect sewing it is necessary to use a thread and needle suitable to the material that is being sewn.

First, get the tension on the shuttle (bearing in mind the kind of material to be sewn,) so that the seam may be sufficiently tight and yet, if the material be thin, not so tight as to cause it to pucker or crack in the stretching. Having got the tension desired, no further trouble need be taken with the shuttle. The appearance of the stitch can then be regulated solely by the needle-tension.

The needle should descend truly, in one position of the throat hole; that is it should not be crooked, or, in other words, if the point be near one side of the hole and the upper part of the blade at the other side, the needle will catch the work at one side and drag it to the other, and so widen or narrow a tack, as the case may be, especially if the material being sewn is of a hard and unyielding nature. In woollen goods this would not occur, as the material would yield to the bend of the needle.

Admitting that the mechanism of a machine is right, most troubles will result from the needle, either that it is not set properly, or that it is not the size suitable for the thread. All needles have a groove in them, running the entire length of the blade, called the long groove, and on the reverse side a short groove, at the eye. The short groove should always face the shuttle and the upper thread should always face the long groove. This rule applies to all kinds of machines.

As before explained, the thread from the "Take-up" runs down the long groove, when the needle is in the cloth and this it does, when the machine is at a high rate of speed, like a flash. It is therefore essential that the thread used should always be commensurate with the depth and width of the groove, so that, in many cases, when the thread breaks, instead of using a stronger or thicker thread, the proper remedy would be to use a thinner one. If there be trouble with a machine, and doubt exists as to where it is, go to the fountain head—the shuttle and the needle. Take off the plates, which cover the shuttle, and, in sewing, see if the shuttle comes at the proper time and if it goes through the loop easily, and if the take-up acts at the proper time, &c.

It may, however, be admitted, that troubles will occur at times, not resulting in any particular defect or arrangement of the mechanism, but from some peculiarity in some one machine, out of a great many. For example, when going, at a high rate of speed, it may occasionally break the thread, when in ordinary course it should not do so. A trouble of this kind, has, to a certain extent, to be guessed at. An experienced machinist, however, leaves not much room for guessing; his knowledge soon gives him a correct solution of the difficulty.

In oiling, examine the machinery well; wherever one part rubs against another, that part requires oiling and no other part.

POLISHING SEWING MACHINE NEEDLES.

By COG-WHEEL in *New York Sewing Machine News*.

Mr. S.—, a manager of one of the leading sewing machine companies, asks for a reliable method of removing rust from sewing machine needles. He says thousands of needles have accumulated on his hands, and are unsaleable on account of rust.

The best plan I know of, when parties have a sufficiently large number of rusty needles to make it pay for the trouble, is to take an oyster or peach can, or any such cylindrical box, and put a rod through the top and bottom, with one end of the rod bent crank shape; have two standards made of wood on a base to support the cylinder lengthwise.

The cylinder should be indented with a centre punch on the outside so as to make raised points in the interior to increase the friction. An opening may be made on the side of the can and a sliding cover fitted. The rusty needles are put into the cylinder together with emery powder mixed with mica or powdered granite, and then the cylinder is turned upon its axis. This agitation is kept up for several hours, after which they are then winnowed with a hand bellows to clean them from refuse matter and are ready to arrange in regular order as to kind and sizes.

It is found that emery powder, mica and powdered granite are preferable to anything else for polishing needles by friction in any contrivance.

To avoid all of this trouble of cleaning needles dealers should dust the needle tray with powdered chalk which has been exposed in the sun for a few hours, or use good sweet oil rubbed over the needles while they are in the needle tray.

STEEL RAIL MAKING IN STAFFORDSHIRE.

NOW that a company has been formed to try in Staffordshire the new method of converting iron into steel, some very brief descriptions of the process as carried on at the establishment of Bolckow, Vaughan and Co., (Limited,) Eston, near Middlesbrough, may not be uninteresting. On first looking round, the visitor is struck by the enormous area of works, and the gigantic proportions of the furnaces and appliances used. But a company which has a capital of £3,650,000, and employs about 5,000 hands, is likely to have works, plant, and machinery of somewhat leviathan proportions.

On entering the works the visitor is first taken to the engines, where the hot blast blowing engines are placed, and which engines are of enormous power and dimensions. Close to these is a row of ordinary smelting furnaces, which to the outward eye are very similar to those seen in Staffordshire, only larger, newer, and more of them together than are usually seen in this latter named locality. Crossing the railway which intersects the works, the visitor reaches the place where the steel making is carried on.

The first thing that strikes the eye is a long row of massive bowls, which are swung on beams, and look something like big military mortars, only larger, and especially longer. These are the great crucibles into which, after they have been primed with the basic material, the molten iron is poured to be converted into steel. Some of these are just being filled with the flowing molten iron, others are emptying the metal, after it has been converted into steel, into ingots, and others are vomiting forth in angry flames certain chemical products which are burnt in the pots or "converters" after the steel has been drawn off. The steel having been made, it is run into moulds and made into the form of large ingots, which in the case under notice were destined shortly to become steel rails. The method, celerity, and precision with which the work of rail manufacture is accomplished is most remarkable. Mechanical appliances of the most ingenious construction, worked by steam power, are employed at every stage of the proceedings, down to time when the rail is finished and placed on the truck to be carried away.

But to return to the order of the process; no sooner has the ingot of steel been formed than it is placed on one of the small locomotives, which are running about in every direction, (and make the visitor wish for a few extra pairs of eyes,) and is carried to one of the re-heating furnaces, where the steel is re-heated to soften it. When this is done the ingot is placed on another little engine and carried to the rolls, which it runs through in an almost automatic manner, only requiring to be turned over occasionally, previous to passing through new grooves. When at last the rail is made of the requisite gauge it is cut into proper lengths by a saw, which divides the hard metal as if it were wood. Then the rail is straightened, pierced with holes, trimmed, and put in a position to be inspected before being sent away. As we have said, the ingenious way in which machinery and steam power are employed is surprising and sometimes even amusing. At one period of the process a series of claws come up out of the ground, seize the hot rail, and lift it into another position, and then disappear. In other cases engine men sit in boxes, like pointsmen on railways and work handles and levers according to the process required. Hand power and horse power are almost dispensed with in these works. The men employed only seem to guide the machinery and power which is used, and locomotives do the work of horses, of which animals there are only five in the works.

Passing back, we go through the department where the converters are prepared, which preparation appears largely to consist in lining the converters with lime, which lime takes up the phosphorus that must be eliminated from the iron before it can become steel. It may also be stated that steel is made at the Eston works by the Bessemer as well as the Gilchrist methods, and to the uninitiated eye the processes have certain points of resemblance, though it is well known the methods by which the iron is converted into steel

are different. It would appear, however, that the Gilchrist method is of the best use in converting the less pure ores into steel.

As is often the case at large ironmaking establishments these works go on night and day, and in order to further this object as effectually as possible, the Eston Works are lit by the electric light. The vastness of the operations carried on by Bolckow, Vaughan and Co., are indicated by the extent of the capital employed and the hints given as to the proportions of their works. So far as locality is concerned they are very favourably placed. Within sight of the furnaces are the mines from which the ore is drawn, and within a very short distance is a good navigable river, the Tees, flowing into the North Sea. Coal is found in the district, so that the company have almost every facility and advantage for developing and carrying on their gigantic trade.

This notice is not intended to be a technical and scientific account of the new steel making process, but rather a general description of the works at which this new manufacture is now carried on. Many of the readers of this Journal know something of the new Gilchrist method of making steel, but few are perhaps aware of the extent and completeness of the works of Bolckow, Vaughan and Co., (Limited,) at Eston. Indeed it may be that a survey of the Cleveland iron district would be rather a surprise to many of those who are only familiar with the iron making of this locality. Being a comparatively young manufacturing country the Cleveland ironmasters have been able to profit by the experience of iron producers elsewhere, and, starting with fresh energy and capital, have erected furnaces which are at once of the most complete and modern as well as most economical type. In fact, the proportions of most of the iron furnaces, and the great number of them in this district, are quite sufficient to indicate what an immense iron producing country Cleveland is.

THE SWAN LIGHT.

A very successful installation has just been completed with Swan lamps and Faure accumulators in the Opera House, Paris. The lamps were first shown to the public on Friday. They have been placed in several parts of the building, but most prominently in the Foyer, the extremely elaborate decorations which have been entirely spoiled by the ruthless effects of gas. To light the Foyer with gas 10 chandeliers with 48 lights on each were used, equivalent to about 4,800 candle power, two of these chandeliers have been fitted with 48 Swan lamps each, these were run up to about 40 candle power; making a total of 3,840 candles for the two chandeliers, almost exactly equal to the eight remaining gas-lit chandeliers. The effect in the neighbourhood of the electric light was exceedingly marked, and the representative of the Opera House who witnessed the trial expressed themselves extremely pleased with the result. All the main cables were covered with lead and every lamp was protected with lead cut outs to avoid any possible chance of fire. The offices of the Swan United Electric Light Company (Limited) are at 9, St. Mildred's-court, Poultry.

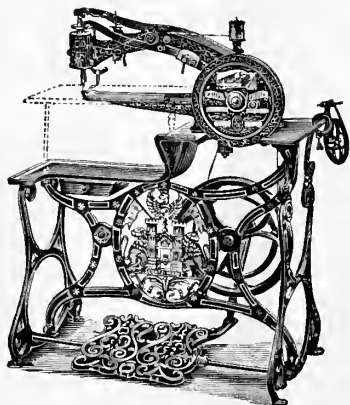
MESSRS. DUNCAN BROTHERS, engineers, of 32, Queen Victoria-street, are introducing a new method of stopping engines by electricity, which has been invented by Mr. Tate. The apparatus also stops the engine on which it is fitted whenever the speed exceeds the ordinary rate by any given number of revolutions. The invention is of universal interest, as it enables any person in an emergency to stop engines to which it is applied, on land or at sea, and thus to prevent accidents to life and property.

"Gentlemen, it is not necessary to administer the oath of secrecy to this witness as he is a member of the press, and nobody would believe any thing he might divulge."

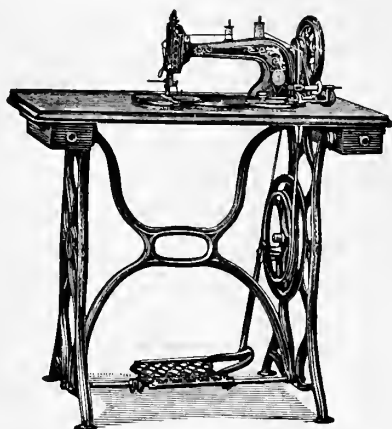
"I told her I'd never smoke another cigar," he said softly, "and I won't! A pipe's plenty good enough for me," and he gracefully drew a match over the leg of his trousers.

MESSRS. DÜRKOPP & CO.'S MACHINES.

The manufactory of Messrs. Dürkopp & Co., of Bielefeld, is a very extensive concern and gives employment to upwards of 700 hands. It produces daily close on 150 machines. Hundreds of ingeniously constructed tools manufacture each separate part of the sewing machine; from the wood-work down to the very smallest spring or screw. Everything is made in the manufactory itself, and made so accurately besides that even years afterwards any part of the machine can be replaced by a piece from stock.



There are four kinds of machines manufactured by Messrs. Dürkopp & Co., viz., family, shoemakers, tailors, and a hand machine. The family and hand machines are provided with an elegant cover, nickel plated fly-wheel, and are prettily ornamented with mother of pearl. The trade mark is cast in all the frames, and the stands of the machines are handsome in appearance.



For shoemakers the patent elastic machine with upper and lower feeds is undoubtedly a good machine. It will sew thick leather or fine cloth, and has a well-established reputation amongst Continental manufacturers as being a very excellent machine.

Messrs. Dürkopp & Co.'s machines which are constructed on the Singer system, are provided with a patent bobbin winder that reels up the thread lay for lay just as on the bobbins in common use. By this means a great quantity of thread is reeled up, and good regular sewing ensured. The machines have automatic winders—saving wear and tear, and automatic thread tension by which the breaking and bending of the needle is obviated. The working portions of the machine are of fine steel, and all parts are carefully finished. We have examined specimens of work performed by these machines which we find to be excellent.

Messrs. Dürkopp & Co.'s machines are well known in the English Colonies; indeed they make a great feature of the export business,



giving more attention to it than home trade. Shippers can see samples at the office of Mr. Lohmann, 43, London Wall, E.C.

EXPORTS AND IMPORTS OF SEWING MACHINES During October, 1882.

EXPORTS FROM LONDON.

		6	Sewing Machines
Bombay	...	£120	do.
Cape of Good Hope	...	30	do.
Demerera	...	11	do.
Flushing	...	5	do.
Genoa	...	2	do.
Hong Kong	...	1	do.
Madras	...	36	do.
Oporto	...	1	do.
Otago	...	1	do.
Penang	...	15	do.
Rangoon	...	4	do.
St. Lucia	...	4	do.
Symrna	...	£19	do.
Varna	...	6	do.

FROM LIVERPOOL.

Barcelona	...	7	cases sewing machines.
Bilbao	...	26	do. do.
Buenos Ayres	...	106	sewing machines.
Constantinople	...	25	packages sewing machines.
do.	...	59	cases do.
Grand Bassa	...	2	boxes do.
Manilla	...	17	packages do.
Monte Video	...	1	case do.
Melbourne	...	18	do. do.
Mauranham	...	39	do. do.
Monte Video	...	105	do. do.
Pacasmago	...	1	do. do.
Para	...	230	do. do.
Oporto	...	15	do. do.
Sierra Leone	...	2	do. do.
Sydney	...	4	sewing machines.
Teneriffe	...	54	cases do.
Shanghai	...	3	do. do.
Vera Cruz	...	16	crates do.

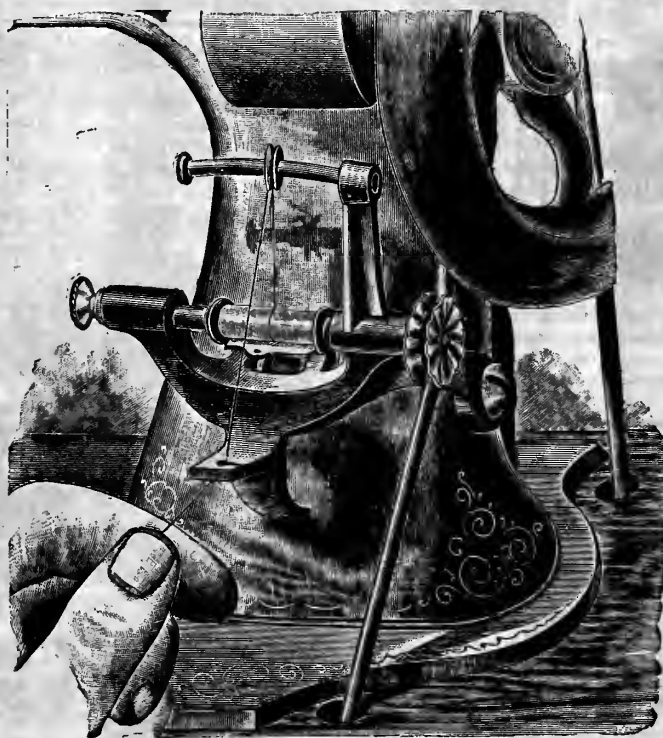
IMPORTS INTO LONDON.

H. Loog, Germany	...	£1,300
T. Meadows and Co., United States	...	£640
Newcourt and Sons, do.	...	£52
Horne and Crampton, do.	...	£700
M. D. Co., do.	...	£122
E. H. Rofle, Holland	...	£2,172
Johnson and Archer, Germany	...	£20
Avern, Sons and Co., France	...	£72

INTO LIVERPOOL.

Cunard S.S. Co.	...	£17
M. A. Brown	...	£114
MacAndrews and Co.	...	£400
P. Frank	...	£472
Cunard S.S. Co.	...	£32
W. Carden & Co.	...	£12
M. A. Brown...	...	£151

SUPPLEMENT TO THE
JOURNAL OF DOMESTIC APPLIANCES AND SEWING MACHINE GAZETTE,
NOVEMBER, 1882.



AUTOMATIC WINDER,
MANUFACTURED BY
THE WHITE SEWING MACHINE COMPANY,
QUEEN VICTORIA STREET, E.C.



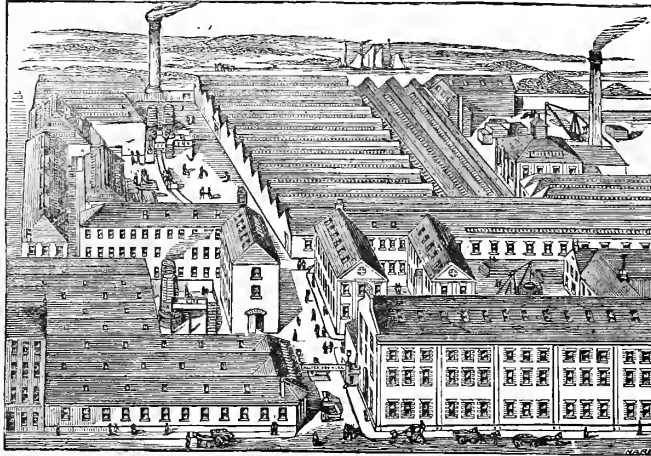
MESSRS. STEVENS BROS. & CO'S. ARCHITECTURAL AND SANITARY IRON WORKS.



WE give an illustration shewing the works of the above well-known firm situated at Glasgow, covering upwards of ten acres of ground, and finding employment for upwards of a thousand men.

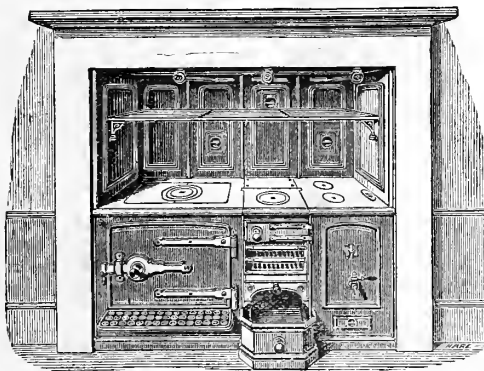
As manufacturers of ornamental and sanitary iron work, Messrs. Stevens Bros. and Co. are in the enjoyment of a world wide fame. It is chiefly, however, to the more domestic and sanitary department of their productions that we would draw the attention of our readers, and in an especial degree to the many improvements they

of cracking, and enables the wrought-iron boiler at the back to be got at more easily when requiring to be cleared or repaired, without pulling the range to pieces. An additional feature in these kitcheners is the swing brackets, on which rests the plate-rack, so that when not in use it can be folded down out of the way. The bottom grate rests on a frame, instead of being built in the brick-work (as is usual) so that it can be replaced immediately without disturbing the fire-place. These ranges are supplied with moveable fire-bars, and the dampers are carried out to the front of the range by long handles, by which means the cook is less liable to the danger of burning in the use of them, and at the same time being so much easier of access. These double oven-kitcheners can roast

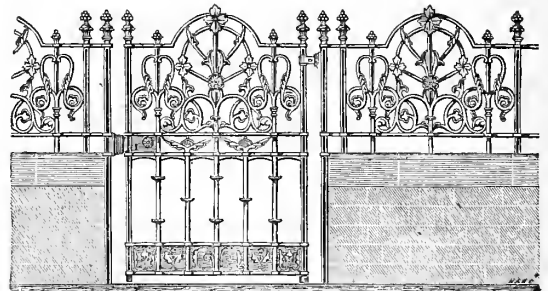


have introduced in the construction and manufacture of kitchen ranges. Everybody who remembers what a very Moloch in the consumption of coals the kitchen range of say twenty years ago used to be—will appreciate the difference if they will note the construction of Messrs. Stevens Bros. and Co's. double-oven kitchener shewn in our illustration. It is fitted with a self-acting cone ventilator, placed beyond the reach of the cook or attendant to interfere with its action, thus doing away with the great "objection to kitcheners,"

in both ovens, and in front of the fire at the same time, giving exactly the same heat in both ovens. They can be so regulated that the whole of the heat can be kept to one oven if desired, or divided at pleasure. They burn almost any kind of fuel; to a great extent consume their own smoke; give a continuous supply of hot water, and are made of the best Scotch iron, which does not crumble away like the common iron in general use. We are informed that this kitchener has lately gained two silver medals in competition with the ranges of all other makers, and the firm was also awarded the first prize in this department at the Melbourne Exhibition, 1880.



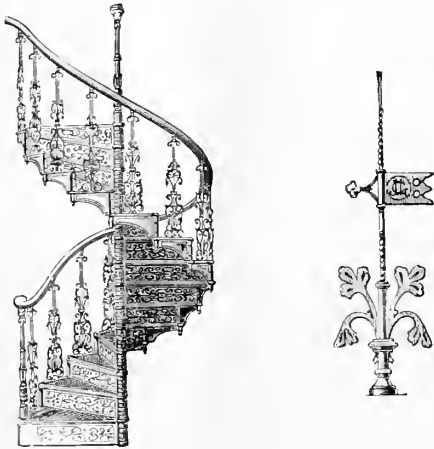
viz., the smell of cooking proceeding throughout the house. This ventilator is placed immediately over the ovens, and carries off all fumes and odours into the chimney. The new patent letter-box check is the most perfect economiser of its kind, consuming much less fuel, whilst increasing the heat nearly twofold, and at the same time rendering it impossible to roar away the fuel, and damaging the range. The hot plates (or hobs) are made in several parts, which allow for expansion and contraction, without the fear



In a new and revised catalogue of a quarto size issued by this firm, there are no less than 160 plates of illustrations, drawn and chromolithographed on a large scale, of open and closed kitchen ranges, arranged in suites of different patterns. There is also given the necessary information, in detail, required by builders and contractors. The catalogue, which is a costly production, can be had on application to either the London or Glasgow house.

We hope in a future issue to give some description of several other kitcheners made by this firm, which appears to us to want more attention than we can devote to them within the limits of

the present short notice. Looking through the various departments, we were much struck with the completeness and finish of their stable fittings, as everybody knows a much greater amount of attention is devoted now a day to the comfort and well being of the horse than was thought of by our forefathers, and Messrs. Stevens Bros. & Co. have for years devoted a large amount of attention to the subject. Their fittings are in use in the stables of our own Royal family, as well as in those of other Crowned Heads of Europe, not to mention the numerous barracks, &c., throughout the country. In the manufacture of cattle and stable-fittings the greatest care is taken both as to the quality of material used, and in the workmanship, none but the most practical and experienced men being employed in the production of each article. Upon examination it will be found that careful attention has been paid to everything which can conduce to the safety, health, and cleanliness of a first-class stable. Among the variety of goods manufactured by them we have only space left just to enumerate their sanitary appliances, their different hot-water apparatus, lamp-posts with lanterns, rain-water pipes, and heads, and the miscella-



nous articles, such as:—Railings and gates; spiral and straight stairs; panels and gratings; garden chairs and tables; balusters and newel bars; water-closets and urinals; ordure and dry closets; lavatories and sinks; baths, plain and enamelled; bakers' oven work; drinking fountains; band-stands; covered ways and arcades; balconies and porches; shop-fronts and carriage awnings; stoves, hall and shop; slow combustion stoves; tomb-railing and chains; patent hot-water valves; columns, patent and ornamental; rain-water pipes and gutters; stable and cow-house fittings; hot-water pipes and connexions; cattle, pig, and poultry troughs; hot-water boilers, wrought and cast; furnace-fronts, bars, &c.; ridgings and crestings; finials and weather vanes; desks and seat standards; lamp-post and brackets; verandahs and conservatories; patent baths, with fittings; garden rollers, single and double; dust-bins and sink-traps; kitchen ranges, close and open fires; stoves, register and hot-air; furnace pans and fittings; tile register stoves; socket and flange pipes; window-guards and standards, &c., &c., &c.

On some future occasion we will deal with some of these productions at much greater length.

An impecunious fortune hunter having been accepted by an heiress, at the wedding, when that portion of the ceremony was reached where the bridegroom says, "With all my worldly goods I thee endow," a spiteful relative of the bride exclaimed, "There goes his carpet bag!"

TECHNICAL EDUCATION IN THE HARDWARE TRADES.

THE City and Guilds of London Institute for the advancement of technical education have just issued their programme of examinations for 1882-3. This Institution affords facilities for carrying out an examination in any town in England, wherever a class for instruction is formed, provided that a local committee undertakes to carry it out according to the rules laid down. The Institution makes grants to teachers, which vary in amount according to the number of their pupils that are successful in passing the examination. The pupils also are awarded silver and bronze medals, and prizes ranging from one to five pounds. Turning to that portion of the examination, questions which concern the Hardware Trades, we come first to the section which relates to the manufacture of iron and steel. The candidate has to answer such questions as:

"Describe the classification of pig-iron, based on the character its texture as exhibited at a fractured surface. What are the causes of the difference in texture observed between various kinds of pig-iron and iron castings, and how do they act in bringing about the result?"

"Roughly sketch and describe the mode of use of some form of mechanical puddling surface. What are its advantages and disadvantages as compared with hand puddling furnaces?"

"Why is steel prepared by the Bessemer and Siemens processes usually not well suited for the manufacture of the finest kinds of cutting instruments? What class of steel is preferred for this purpose, and how is it prepared?"

"Describe the preparation of a clockspring from a thin sheet of steel, especially the processes by which its peculiar toughness and elasticity are given to it. In what way do these processes differ from those by which a fine cutting instrument (such as a surgical knife) would be prepared from a bar of steel?"

Should the candidate aspire at passing a higher grade than that of the "ordinary" from which these questions are selected he will meet with such interrogatories as:

"Contrast the various methods that have been employed for avoiding as far as possible the formation of bubbles, holes, and honeycombs during the casting of steel, pointing out their relative advantages: give also your view as to the chemical or physical causes of the suppression of the bubbles in each of the methods respectively."

"Write a short essay on the hardening and tempering of steel, discussing the whole subject generally and concisely, and referring to the leading variations in the methods adopted rendered necessary in particular cases."

The examinations in electro-metallurgy are very difficult, but those in metal plate work appear more easy, and the student will have to answer such questions as the following:

"Compare iron, tin, and zinc, in respect to their behaviour when exposed to damp air. Why are tin and zinc used to coat iron, and to what extent is the result satisfactory?"

"Why is it necessary to tin some metals before soldering them? Why is tin selected for the purpose?"

"What are the main points to be attended to in composing a solder for uniting the following metals together, describe the composition of the solder you would use in each case? Copper to copper, brass to lead, tinplate to tinplate, iron to lead, zinc to zinc, iron to brass, pewter to pewter."

The examiners for the year 1883 are as follows:—Iron and steel manufacture, Dr. C. Alder Wright; electro-metallurgy, George Gore, Esq.; metal work, Professor Huntingdon; plumbers work, U. Eassie Esq. Any further particulars that our readers may desire can be obtained from the Gresham College, E.C.

"Why haven't you brought back the umbrella you borrowed of me, Sam?" "Because father always told me to lay up something for a rainy day."

DESCRIPTIONS OF RECENT INVENTIONS.

IMPROVEMENT IN SEWING MACHINE MOTORS.

Mr. John D. Underhill, of Hoboken, N.J., and Elizabeth Underhill, of New Rochelle, N.Y., have patented devices for equalizing the driving power of a coiled spring, to adapt it to drive sewing machines at a uniform speed. A regulating wheel driven by the coiled spring, has a spiral row of perforations on its face from near its center to its periphery. A spur wheel, whose teeth engage with the spiral perforations, slides upon a feather upon its shaft, and the outer end of the shaft is provided with a gear wheel which engages with a train of wheels, through which the power is applied to the machine to be driven, with a gradually increasing leverage as the force of the uncoiling spring decreases.

IMPROVEMENTS IN DOMESTIC STOVES.

In these stoves which are patented by Mr. Jaffrey, of Manchester, the bottom and sides are made of fireclay, the former being perforated round the front part, so as to form a passage for the admission of heated air and ignited gases into a combustion chamber under the fireclay bottom. The back of the firegrate is formed of a series of fireclay blocks, which are slotted to form channels communicating with a flue or flues at the back leading to the combustion-chamber; the said blocks also serving as a grid to prevent the burning fuel falling into the latter. A flue is also formed on each side of the grate, down which the products of combustion are led to the above mentioned combustion-chamber, and then through fireclay bridges into a vertical flue or flues connected with the chimney. In lighting, the smoke is allowed to ascend in the usual way until the fuel is fairly alight, when, upon closing a register valve all the products of combustion are drawn downwards and led away.

A STEAM TRICYCLE.

This novel vehicle is the invention of Mons. L. G. Perreux, and consists of an ordinary tricycle combined with a small steam engine and fuel chambers. The engine and accessories are supported mainly by the two hind wheels, and the front wheel is used for a driving and guiding wheel. The steam is produced by the burning vapours of alcohol heating the boilers. The alcohol is warmed to give off its vapour better by means of a little spirit lamp whose power can be regulated by hand, so as to increase or diminish the production of heat under the boilers. The steam produced in the boilers is repassed through the spirit flame in copper tubes, so as to superheat it before it passes into the cylinder of the motor. This adds to the economy of the machine, and there is little or no danger of explosion, as the pressure never exceeds four atmospheres, as can always be seen by referring to the manometer placed in front of the person riding. The motor is a little single cylinder steam engine, and its power is communicated to the front wheel by cords and pulleys. Steam is let off under the seat, and water is fed to the boiler by means of a little pump from a reservoir capable of keeping up a three hours' supply before being replenished. The rider has all the stopcocks and apparatus necessary for working the tricycle under his immediate command, and in this way he can traverse the country at a rate of fifteen to twenty miles an hour, with little or no expenditure of his own energy.

IMPROVED CANDLESTICKS.

Provisional protection only has been obtained for this invention by Mr. J. Engelson, of Naples.—In order to produce a candlestick such as will allow of the candle being placed in or withdrawn from it, and which will also hold different sizes of candles, there is formed in the upper part a box-like casing, in which are jaw pieces forming together a cone pressed towards each other by means of springs, the bottom of the jaw-pieces resting upon the lower part of

box, the casing being open at the bottom to allow of cleaning. In inserting a candle into the holder its end is placed in the cone, and pressed down into the lower socket part, and is securely held in position by the tension of the springs on the cone.

GAS APPLIANCES EXHIBITION AT BURSLEM.

This exhibition which opened on the 12th ult., was certainly most successful. Among the exhibitors were The Thompson Smokeless Kiln Company, of London; Messrs. Wright and Co., of Birmingham; Messrs. H. and C. Davis, of Camberwell; Messrs. Sugg and Co., of London; Mr. Heron, of Manchester; Messrs. Stett and Co., of Oldham, and many others.

GAS BURNERS.

Mr. G. S. Gremston, of Brockley, has patented this invention, which consists in the construction of gas-burning apparatus in which the flame is entirely enclosed, and all air passing to it has to circulate through a "regenerator" kept heated by the products of combustion passing upwards to the chimney. The air thus becomes highly heated before reaching the burners, which consist of tubular gas-jets. With a view to avoid downward shadow, the flame is directed to the bottom of a deflector, under the edge of which, when the burners have been lighted sufficiently long to produce the necessary draught, the flame curls upwards after thus having been brought to the bottom of the lamp.

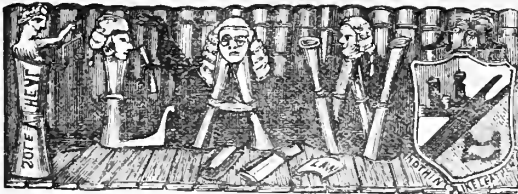
LOCKING NUTS TO SCREW BOLTS.

In this invention which is patented by A. M. Clark (S. Pattee, accountant, and A. B. Smith, ship-master, San Francisco) consists of a bolt formed with right and left handed threads, and two nuts respectively having threads of a corresponding description applied thereto. Between these is introduced a thin metal plate, with projecting ears, which lap over the edges of the two nuts, and prevent their further independent movement. Thus the attempt of either nut to work loose has the effect of tightening it upon the other nut, or upon the article fastened.

THE GHENT EXHIBITION.



At this exhibition, which opened on the 28th of August and closed on the 16th ult., there was much to interest members of the trades represented by this journal. Among the exhibits of heating appliances M. C. de Lairesse, of Liege, showed some handsome stoves made of brass and porcelain; M. de Roo, of Bruges, exhibited a Louis XVI and a Renaissance stove; M. G. Slevors, of Brussels, showed two stoves in German silver, Flemish style, one being handsomely ornamented with gilt; Messrs. La Fontaine, of Ghent, exhibited American style nickel plated stoves. Very handsome brass lustres or gaseliers were shown in great number and they were very handsome in design. Nickel plated goods were shown by M. F. Lanckman, of Ghent, and M. J. L. Van Der Meerch, Brussels. The latter has invented a new method of electro-metal-lurgy, by which he is able to deposit pure solid nickel to the thickness of a millimetre (0.039 in.), where as, by the ordinary process, only from one-hundredth to two-hundredths of that thickness can be deposited. For instance, he has on view a cornet-à-piston, on which 84 grammes of nickel have been deposited, whereas 3 grammes is the usual quantity. In this way the great objection to nickel plated articles—viz., that necessarily their coating wears off and exposes the base metal beneath—is quite overcome. A novel and useful silver-plated article, called *flambeau applique* is contributed by M. Bélangé, of Mons. It is a lamp or candlestick, which fits into a socket carrying the base; and, owing to a kind of bayonet joint, will stand on the table like an ordinary candlestick, or may be hung up with the base against a wall.



CHARGE OF EMBEZZLEMENT FROM A STOVE MANUFACTURER.

Nathan Maurice surrendered to his recognisances to take his trial upon an indictment charging him with embezzling money belonging to his masters Messrs. Barnard, Bishop, and Barnard, stove manufacturers, of Norwich and Queen Victoria-street.

Sir Hardinge Giffard, Q.C., conducted the prosecution, and Mr. E. Clarke, Q.C., and Mr. Besley appeared for the defence.

The prisoner had been in the service of the prosecutors for about five years as manager of their London business. His duty was to receive money on behalf of the firm, and also orders, which it was his duty to forward, with directions, to the manufactory at Norwich, to be executed. The prisoner's salary was enlarged from time to time until it reached £600 per annum. In the present year information was received by the firm from a clerk in the London office, in consequence of which an examination of the accounts was made, the result being the discovery of alleged deficiencies in money received by the prisoner on account of his employers, who had felt it their duty, out of justice to their other employes to have the circumstances investigated before a jury.

Mr. Clarke addressed the jury for the defence. The prisoner, he said, had been five years in the service of the prosecutors, and had forwarded to them, as the result of business transactions at the London office, about £8,000 per annum, and now at the end of that period the prosecutors could only find alleged defalcations to the amount of £30. That, he argued, was not one of embezzlement and the evidence was such as would not, he thought, justify the jury in convicting.

A verdict of not guilty was returned.

There was another indictment against the prisoner, but the trial of it was postponed until a later day in the sessions. The prisoner in the meantime was liberated on his own recognisances.

DISPUTE ABOUT A BICYCLE.

At the Faversham County Court, before Mr. G. Russell, judge, Mr. J. W. Morris sued Mr. Frederic Cheshire, an excise officer, for £2 7s., being the balance due on a bicycle. The defendant pleaded infancy; he was a minor at the time the bicycle was purchased. He did not deny that the balance stated was due on the price he agreed to give, but he contended that the machine was not of the value plaintiff put upon it, as it had all sorts of defects, and broke down under him once. That was why he pleaded infancy. The judge said he considered the plea was a dishonest one, and defendant could not avail himself of it, inasmuch as he had made payments on account since he had attained his majority. He gave judgment for the plaintiff, with costs, to be paid forthwith.

CLAIM FOR A BAD TRICYCLE.

HOOPER v. ARNOTT.—At the City of London Court, Mr Lyon (instructed by Mr. Deane) appeared for the plaintiff, and Mr. MacCall (instructed by Mr. Yielding) for the defendant. Plaintiff had purchased a tricycle of defendant, having at the time a warranty that it was of a certain quality. Shortly after purchase the axle of the machine broke. Plaintiff subsequently found that the machine was of inferior quality, and not as represented in the warranty. He now claimed compensation from the defendant. A verdict for the plaintiff for £7 10s., was given, being the amount, according to the evidence, necessary to put the machine in the condition stated in the warranty.

ALLEGED SEWING MACHINE FRAUDS.

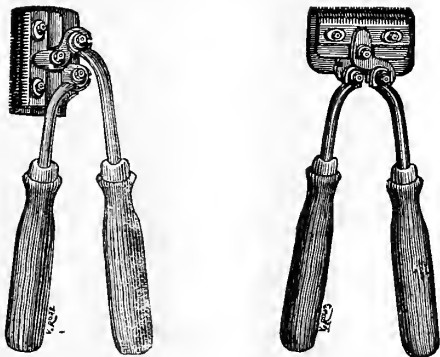
At Bow-street on 13th ult., a toy dealer named Morris Goldstein, aged 24, of 55, Waterloo-road, was charged on a warrant before Mr. Flowers with obtaining various sums of money by false and fraudulent pretences with intent to defraud.—Mr. Meade prosecuted on behalf of the Treasury, and said no doubt, when publicity was given to the facts under which the prosecution was instituted, there would, in all probability, be a number of cases brought forward where poor persons had been defrauded. An Advertisement had been inserted in many papers as follows:—"The Ladies' Companion—The Speedwell Sewing Machine (patented) price 1s. 2d. This machine will hem, quilt, button-hole, and sew buttons on anything, from the finest calico to the thickest cloth. It is so simple, any child can work it. In box complete, 1s. 2d.; carriage paid, 3d. extra. Two carriage paid, for 2s. 6d. Sole inventors, J. R. Hill and Co., 89, New Oxford-street." The advertisement was supplemented with an illustration of a lady seated at a table working. It somewhat resembled the usual sewing machine illustrations. The "Speedwell Sewing Machine" was produced in Court. It was simply two small pieces of tin and wire, apparently of no use whatever, and of the intrinsic value of one half-penny—After briefly stating the facts, Mr. Mead called Emily Cullwick, who deposed that she was a laundress. Having seen the advertisement she called at the Office, 89, New Oxford-street, and asked the woman serving to show her one of the machines. The shopwoman said they could not be shown—"they were just as they had them sent to them." Witness bought the article, but finding it useless she went to get her money back, but this was refused. While she waited a man arrived with a cart to fetch one of the machines. (Laughter).—The prisoner, who said he expected Mr. Lewis, of Ely-place, to represent him, was remanded, without bail.

On the 19th ult., Morris Goldstein was further charged with obtaining money by alleged false representations. Mr. Mead prosecuted on behalf of the Treasury, Mr. Metcalfe defended. The alleged fraud was contained in advertisements inserted in various periodicals containing alleged false representations with reference to "The Speedwell Sewing Machines," which could be purchased for 1s. 2d. The representations were that this machine could be used to sew, hem, quilt, button-hole, and sew buttons on anything, from the finest calicoes to the thickest cloth, and was so easy that any child could work it. "Sole inventors, J. N. Hill and Co., 89, New Oxford-street, London, W.C." The prisoner was formally identified by Mr. Delger as having rented a portion of the above premises. He occupied these for about five months, and during the time numerous complaints were made by purchasers, "who couldn't understand the action of the machines." The articles sold consisted of two small pieces of tin, with a piece of wire passed through them, a portion being formed into a circle with one end protruding apparently for the purpose of putting a reel of cotton on.—Mr. Henry Townlee, architect, of Mosaphir House, Lewin-road, Streatham-common, deposed to sending 1s. 5d. in postage stamps to the above address. In return he received one of the "sewing machines." As the box had been opened at one end during transit through the post, witness went to 89, New Oxford-street, to know "if that was the whole of the machine." (Laughter). He was assured that it was a complete one. While witness was at the shop a lady called and wished to see one. The attendant declined to show her one. In cross-examination witness said he should be very much surprised to see that one of the machines would work.—Florence Irbin, of 12, Geneva-road, Brixton, deposed to the purchase of one of the machines. Before doing so, she asked that the article might be shown to her. The attendant refused to allow her to see it before purchase. Witness opened the box in the shop, and, upon seeing the contents, said, "It served me right for being so credulous." She tried to work with it when she got home, but failed.—Richard Sawyer, of 47b, Mare-street, Hackney, also purchased a machine for his niece to take into Norfolk. The article was no use whatever.—The prisoner was remanded.

NOTES ON NOVELTIES.

THE "DUPLEX" PATENT HORSE CLIPPER.

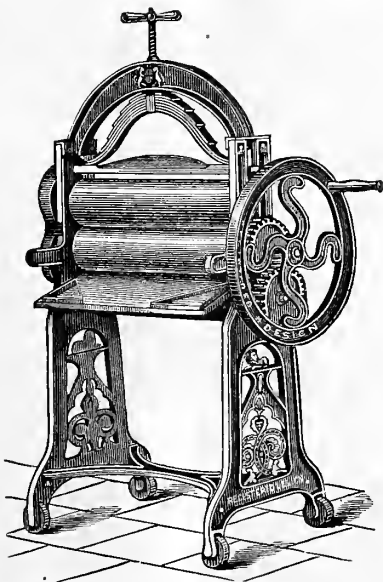
With this appliance a man can clip the pastern of the horse's foot while resting on the ground, the inside of the legs, under the belly, round the ears and over the head, thus avoiding the extra expense of the over-handed clipper now required. This clipper is simply constructed and can be easily altered from one position



to the other as shown in our engravings. To do this the nuts are turned with a key provided for this purpose, and the handles are fitted with slots in the side. These machines, which are made of the best cast steel and are highly finished, are sold by Messrs. J. Sabatier and Co., 9, Bread-street Hill, E.C.

THE SURPRISE WRINGER AND MANGLE.

Messrs. Holmes, Pearson and Midgley, Royal Iron Works, Keighley, have just brought out some new registered designs in wringing and mangling machines. One of them they have named

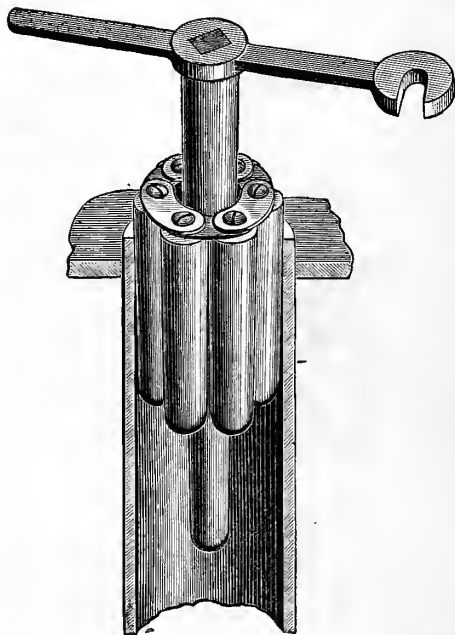


the "Surprise" on account of its wonderful cheapness in price. Each end of the machine is beautifully carved (as will be seen from the engraving), which gives it an ornamental and cheerful appearance, compared with the plain wringers and mangles made

by most other makers. This firm we believe was the first to introduce the ornamental design in wringers and their introduction has been so thoroughly appreciated by the public that they have naturally met with most marked success. Thousands of them are now in use and are all made from the best materials selected from large stocks, and highly recommend them to merchants and shippers.

THE "SIMPLEX" TUBE EXPANDER.

This tool for expanding tubes is most certainly a great improvement on all existing appliances. The rollers, which are taper, revolve on a taper mandrel, and are held in position by means of connecting links attached to the ends. The "Simplex" can be adapted to a variety of sized tools by varying the number of rollers.



It is made of the best tempered steel; each roller is turned to shape in lathe, and being hardened is then ground up perfectly true to a standard taper by means of special machinery, thus ensuring accurate working. The "Duplex," which is patented in Great Britain, Germany, and France, is sold by Messrs. Sonnetthal and Co., 85, Queen Victoria-street, E.C.

A WARNING LAMP.

An adaptation of the electric signalling system has been effected in connexion with a lamp which is made to give notice of either a burglarious entrance into or a fire upon premises where it is employed. The apparatus consists of a small battery with wires leading to attachments on doors and windows, and other wires communicating with the lamp which may be placed either inside or outside the premises as preferred. Upon a door or window being moved, after the apparatus has been set for the night and the lamp lighted, a red disc is released by the aid of a small electro-magnet placed within the lamp, and a red or danger signal is thus given the light having previously been white. For fire purpose a special thermometer is used, and when the raised temperature causes the mercury to rise, metallic contact is made and the lamp at once shows the danger signal. Placed outside houses or public buildings this lamp would afford a sure index to the police as to the safety or otherwise of the interior of the premises. It is being shown at 23, Ludgate-hill.

THE VERTICAL FEED SEWING MACHINE.

Beyond dispute, the only really Perfect Machine yet produced.

AWARDED THE

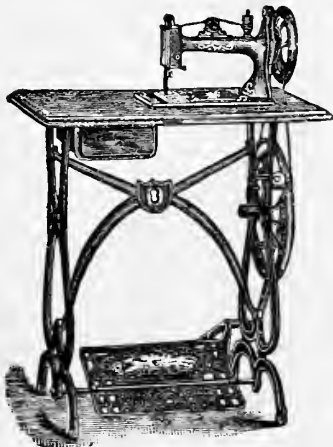
ONLY GOLD MEDALS

AT THE

SYDNEY AND MELBOURNE

EXHIBITIONS

In Competition with all the Leading Machines.



This Machine differs from all others in that the work is fed from above instead of from below, thus leaving a smooth surface for it to run upon. Owing to the peculiarity of its Feed-motion, it will sew over any unevenness, and from the thinnest to the thickest materials without change either of stitch or tension, and without any assistance from the operator. Every variety of work can be done without Tacking, thus effecting a great saving of time and trouble. With each machine is given, without extra charge, a most complete set of simple and useful attachments, by means of which the operations of Hemming, Braiding, Quilting, Ruffling, Tucking and Binding (so difficult to manage on any other machine), can be accomplished with astonishing ease and rapidity and in the greatest perfection of style. The Shuttle holds a large amount of thread, and the Bobbins are easily and evenly wound by means of an automatic Bobbin-winder which accompanies each machine.

Prospectuses, together with Samples of the work, and every information, may be obtained at the Offices of the Company,

52, QUEEN VICTORIA ST., E.C.

SOLE ADDRESS IN LONDON.

THE
LIGHT-RUNNING
STANDARD
Has No Equal.



NONE SO SIMPLE,
NONE SO DURABLE,
NONE SO RELIABLE.

Examine it Before Purchasing any other.

RENNICK, KEMSLEY & CO.,
4 FINSBURY CIRCUS, LONDON,

ALSO,
Melbourne and Sydney.

IRONMONGERY BUSINESSES WANTED.—Among others I have one Client with £4,500 anxious to buy a sound Business, Midlands or South; another Client, with £3,000 to £4,000 desiring a General Furnishing, and Agricultural business, Midland Counties; another Client, with from 3,000 to 4,000, seeking to buy a Furnishing Ironmongery business in a large town. Other Clients requiring businesses from £500 to £2,000 Edward. Ison, Ashby-de-la-Zouch.

TO WHOLESALE AND RETAIL IRONMONGERS AND OTHERS.—Two old established Businesses in the Wholesale and Retail Ironmongery Trade to be Sold as going concerns, either together or separately, with Contracts on hand; the wholesale department (doing principally with builders, contractors, and others) turning over about £10,000, a year, the retail (doing with first-class customers amongst the nobility and gentry of the west and south-west of London) turning over about £7,000 a year; stocks at valuation, and book debts optional. For full particulars apply to Harper Bros., chartered accountants, Billiter House, Billiter Street, E.C. Principals only treated with.

JOURNAL OF DOMESTIC APPLIANCES

AND

Sewing Machine Gazette.



THE present season with its long, dark, foggy nights is undoubtedly the harvest-time of the burglar; and paterfamilias is seen with watchful eyes carefully scanning the Ironmonger's window in the hope of finding some novel appliance which will make his doors and shutters secure, and proof against the jemmy, centrebit or crowbar of the enter-

prising followers of Mr. Bill Sykes. As houses are now constructed they offer every facility to the burglar and no security to the inmates. Indeed modern villas which have windows with catch fastenings and no shutters are as much an enticement to the housebreaker as were the pockets worn behind on ladies jackets a temptation to the light fingered thief. The old fashioned houses with cumbersome shutters and bells, clumsy wooden bars and ponderous bolts, were far more impenetrable to the exertions of the burglar than are the flimsy protections of the present day.

As paterfamilias reads over his breakfast table accounts of so many burglaries, it is no wonder that he should wish for some safer guard to his own residence than the ordinary bolts and locks which are so easily tampered with. The last two or three years many novel appliances have been invented and many of them go a long way towards protecting the dwelling from the thief. Those inventions which strengthen the door or shutter are generally effectual; but those applied to a window, although they may balk the efforts of some ordinary burglars, are certainly not proof against an experienced hand. Thumbscrews are often used as a protection to the window, but a skilful burglar with the aid of a glazier's diamond and some sticky substance such as cobblers wax, can without the slightest noise remove a piece of glass sufficiently large to omit of the hand to unfasten the screw. The same process would, of course, render invalid any kind of patent window fastening. That which seems most effectually to baffle the housebreaker is the application of electric alarms. No doubt this is a most efficacious guard and when laid on to all the doors and windows a burglar is baffled unless he is so desperate that he does not care whether his presence is known or not; and indeed by the many recent daring attempts it seems the burglar does not object to an armed conflict with the householder. Electricity is therefore after all only a warning to the inmates, it is not able to keep out the burglar although it may sometimes scare him away. But as a rule the midnight invader knows pretty well whether the inhabitants of the "crib" he is going to "crack" are several sturdy men or two or three helpless old maids, even though the latter may hang up in the passage several coverings of the head which do not belong to the fair sex. What is wanted is some simple appliance which shall render alike secure a window or a door, no matter whether the former has a shutter or not. This we fear can never be invented, for what would suit one window or door might be useless on another. Safer protection can only be gained by the householder using that particular appliance which is best suited to his requirements. Much good in this way has been done by many kinds of anti-burglary inventions, and as the records of the police courts show that those houses which are burglariously entered are usually but poorly protected, there is no doubt that in the autumn and winter season every kind of protective appliance will insure a large sale.

We all know that for a sluggish liver there is nothing like a good jolting on horseback. The steed necessary for that recreation is however, not always within the means of the person desiring to be jolted. Believing that the next best thing to equine exercise is a close imitation of it, a German has invented an apparatus which shall give to the person setting on it the exact motion of a horse ride. It may be a very good idea, but as the benefit derived from

horse exercise must in a measure result from the movement through the pure open air of the country, we can hardly think the imitation horse a success. There are some people who are sufficiently insane to balance themselves on a music stool and plunge about wildly in the air with their feet and hands with the idea they are learning to swim. Such persons perhaps, but not many others, unless they were fit candidates for Colney Hatch, would sit in a room and be jolted for hours on a wooden horse.

In the last issue of this journal there appeared a report of a case in which a clerk was charged with stealing plans and information of Messrs. Wright and Co., gas stove makers, of Birmingham. This firm were of the opinion that this information was received by Messrs. Arden Hill and Co., who are in the same line of business. Mr. Hill, who is the sole partner of the latter firm, has given his public denial to this insinuation. Who is in the right I cannot say; I only know that much ill feeling has thus been engendered. We should be glad to hear from Messrs. Wright their side of the question, as Messrs. Arden Hill and Co. have already "rushed into print."

IMPROVEMENT IN LOCKS.

Mr. W. Frost, of Peckham, is the inventor of this patent. A tube or pin is fixed in the box of a lock which has closely placed thereon one or more discs. The bolt is formed with one or more curves thereon, into one of which latter the disc or discs take, so that the bolt cannot be pushed back without the key. The disc have each a slot extending to their periphery, and the bolt has also a slot, so that when the key is inserted and turned it turns the disc or discs round, and the ward of the key takes into the slot in the bolt, and pushes it backward or forward, as the case may be either to lock or unlock; one or other of the curves on the bolt fitting over the disc or discs. In order to make it more secure against picking, the bolt may be formed of a series of plates, with the key-slots cut different lengths in each to correspond with the wards on the key, or a projection be formed on the disc or discs to serve as the ward or wards of a key.

IMPROVED WASHING, WRINGING, AND MANGLING MACHINES.

In this machine is the invention of Messrs. H. L. Wilson and J. Clegg, Clayton-le-Moors, Accrington, washing and wringing machine makers.

The end frames are formed of tubes secured together by cast-iron bosses, and are arranged to form a guide for the up roller, which is kept in position by means of spiral springs working on the guides. The gearing consists of two internal tooth-wheels on the axis of the bottom roller, and an eccentric carrying-pinion operating the two internal-gear wheels, the boss of the eccentric pinion being elongated so as to receive the fly-wheel or handle. There are two star wheels, one on each roller-shaft, and the point of gear is behind the internal-gear wheel, which acts as a fence to the star wheels. The tables are constructed in three parts, two hinged to a central board or table, in the ends of which are pivots or pins so as to permit the table and its two wings being secured in a horizontal position, the whole forming a table at back and front of the machine when mangling. The fabrics being folded on the front wing pass between the rollers to and are secured on the back wing. When wringing, the central table and its wing are placed at suitable angles for returning the water to the dolly or wash tub and the clothes to the basket.

Joe being rather remiss in his Sunday-school lessons, the teacher remarked that he hadn't a very good memory. "No, ma'am said she hesitatingly, "but I have a first-rate forgettery."



BANKRUPTS.

Ashworth, T., Virgil-street, City-road, manufacturer of art metal-work.

Smith, J., Newstead, hardware merchant.

LIQUIDATIONS BY ARRANGEMENT.

Lloyd, C., Walton, Lancashire, ironmonger.

Milligan, T., jun., Wigan, and Pemberton, ironmonger.

Moore, R., Southport, cutlery dealer.

Roberts, W. and Son, Sheffield, file manufacturer.

Tuck, C., Dulwich, ironmonger.

Varley, J., Clayton-le-moors, tinplate worker.

Bottomley, S. and Sons, Burnley, plumbers.

Reed, J., Stockton-on-tees, plumber.

McQuin, Springhill, Birmingham, sewing machine manufacturers.

Mearbeck, J., Sheffield, knife manufacturer.

Shufflebotham, J. J., Birmingham, bedstead manufacturer.

BILLS OF SALE.

Horton, chandelier maker, Stratford Works, 239, Bradford-street, Birmingham, for £800, to J. Stevens, jun. Filed Oct. 12.

Jeram, G., ironmonger, 3, Beech-terrace, Somers-road, Southsea, Hants, for £52 10s., to J. Goldstein. Filed Oct. 10.

Perry, T., and A., perambulator manufacturers, 96, Mare-street, Hackney, for £7 5s., to W. R., Cohen. Filed Oct. 7.

Dalton, J. S. R., trading as J. Dalton and Sons, perambulator manufacturer, 55, Renshaw-street, Liverpool, for £150, to Northern Investment Company. Filed, Sept. 27.

Healing E., ironmonger, 121, Abbey-street, Nuneaton, Warwickshire, for £120, to R. B. Starkey. Filed Sept. 19.

ADJUDICATION OF BANKRUPTCY.

Winstanley, T., trading as the Scholes Brass Foundry Co., brass founder, Wigan. Sept. 7.

DIVIDENDS UNDER SEQUESTRATIONS.

Blair, J., brassfounder, Dumbarton-road, Glasgow. First at T. M'Lintock's, 87, St. Vincent-street, Glasgow, Oct. 13.

M'Lelland, J., jun., ironmonger, Dalbeattie. First at T. M'Lintock's, 87, St. Vincent-street, Glasgow, on and after Oct. 9.

TRUSTEES APPOINTED.

Richards, R., (Liq.), ironmonger, Chatteris, Camb. Trustee W. L. Harrison, accountant, Temple-street, Birmingham.

PARTNERSHIPS DISSOLVED.

Jeffrey, G. E., Blackstone, E.C., Stamford, Lincolnshire, iron-founders.

Shalders, F., Coleman, Southampton, ironmongers.

Wrinch and Barnes, Woodbridge, ironmongers.

BOILER EXPLOSION AT A METAL WORKS.—On the 23rd ult. an inquest was held at Birmingham, on the bodies of the three men who were killed by the explosion at the metal works of Messrs. Everitt, Liverpool-street. A witness stated that the pressure on the boiler which burst was 40lb. to the square inch. An engineering expert said the plates were very much corroded, and in some places were not thicker than a worn sixpence. It was highly improper and dangerous to work the boiler in that condition. It was, in fact, worn out. The jury returned a verdict of manslaughter against Mosedale, the engineer, and censured Messrs. Everitt for not stopping the boiler when it was reported unsafe. The coroner committed Mosedale for trial at the assizes.

THE HORNER'S COMPANY'S EXHIBITION.

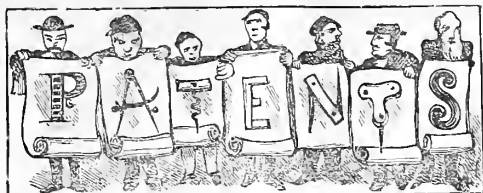
At this exhibition, which was held at the Mansion House from October 18 to 20, there were many articles exhibited, which come within the province of this journal. First we noticed an Italian knife and two pronged fork made of steel with carved horn handles, the pommels of which formed goats heads. There also were exhibited many kinds of drinking bowls, water cups and such articles very artistically ornamented. An old Scottish spoon made of rams horns by an itinerating tinker was seen in a glass case together with a punch ladle, oval scoop and similar articles. The visitor also noticed a clasp knife with broad sickle-shaped blade made of ex horn and iron. This ancient article was exhumed from the bank of the Thames near London Bridge in May 1865. In a case in the centre of the room Mr. Wilkinson, of St. Michaels-alley, shows some artistic articles. We noticed a horn and silver mounted claret jug beautifully ornamented; a pair of horn and silver salt sellers very neat and chaste; and a horn candlestick and a pair of old English "Stirrup" cups. A handsome lamp and candlebra combined, a lantern and an article very much like a policeman's bullseye are all more or less made of horn and were worthy of the notice of the visitor. Messrs. Mordan and Co., of the City-road, exhibit many artistic articles in horn, amongst which were several ornate silver mounted and a spirit lamp.

GAS FOR COOKING AND HEATING PURPOSES.

If the progress of the electric light has not been quite so revolutionary as was at first anticipated, it has yet been ample to greatly stimulate those concerned in the management of gas companies to the devising of means to avert financial loss from competition. The Commercial Gas Company—a concern which supplies the whole of the Tower Hamlets and a portion of Hackney—have promptly stepped into the arena lately commended by the President of the British Association as a most useful field of operations. Dr. Siemens, it will be remembered, prognosticated that gas will hold its own as the poor man's friend, inasmuch as, while it gives a cheerful light, it diffuses a general warmth, and can be made to save resort to coal fire, an antiquated and confessedly wasteful process of evolving heat. The main influence in preventing the common resort to gas as the most convenient, the cleanest, and the cheapest of heating agents, has hitherto been the want of facilities afforded, but by the new departure of the Commercial Gas Company all hindrances are entirely removed. For the payment of as low a sum as one shilling per quarter the company are ready to provide cooking stoves to roast, bake, and boil at the same time, and, for as little as ninepence per quarter, heating stoves

BURGLAR ALARMS.

The demand for a simple, cheap, and sure protection of doors against unlawful visitors has long been felt by householders. A device designed to overcome the danger of sneak thieves and intruders generally has been invented. It is a gong-bell so arranged as to be applied on the inside of a door, and to operate by means of the spindle of the ordinary lock. When placed upon a door in this manner the latch or catch of the door cannot be moved without sounding the alarm. By slipping a lever provided for the purpose the gong is silenced for the time being, allowing the door to be used without the constant alarm. By this means it will be seen that when the door is in use by the family, as in the daytime, the alarm need not be sounded, but on reversing the lever on retiring at night the alarm is fixed so as to make a noise whenever the knob of the lock is turned. It is so constructed that it will fit nearly every door, and, what is an advantage for those who do not live in their own property, can be put on and taken off from a door without defacing it. It is quite desirable for sleeping apartments, making it practically impossible for a thief to enter a room without arousing its occupants. The article, which is manufactured by Messrs. Decker and Deming, No. 116, Washington-street, Chicago, is handsomely finished in nickel plate, and may be considered an ornament to the door to which it is attached.



The following List has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette," by G. F. REDFERN, Patent Agent, 4, South-street, Finsbury, London, and at Paris and Brussels.

APPLICATIONS FOR LETTERS PATENT:—

- No. 4327. G. A. Folker—a communication from A. F. Bechmann, of Vienna, for a new or improved combined clothes hook and hat peg. Dated September 12, 1882.
- „ 4328. W. Bright, of Exeter, for improved cock or tap. Dated September 12, 1882.
- „ 4340. S. Lowe, Machinist, and J. W. Lamb, Manufacturer, both of Nottingham, for improvements in knitting machinery. Dated September 12, 1882.
- „ 4341. J. W. Lamb, Manufacturer, and E. Attenborough, Machine Maker, both of Nottingham, for improvements in knitting machinery. Dated September 12, 1882.
- „ 4352. H. Pearce, of 5, Liddington-place, Harrington-square, London, Metal Worker, for improvements in the apparatus for opening and closing and securing fanlights, casements, sashes, and lantern lights. Dated September 13, 1882.
- „ 4356. G. H. Nash, of Birmingham, for improvements in globe holders for gas and other burners or lamps. Dated September 13, 1882.
- „ 4357. J. H. Stiles, of South Norwood, London, for an improved method of constructing oil and other stoves, bird cages, lanterns, and other articles of a like nature. Dated September 13, 1882.
- „ 4359. W. Beecroft and J. H. Beecroft, both of Leeds, Sewing Machine Manufacturers, for improvements in the means or apparatus employed for transmitting motion to sewing machines, also for arresting or retarding the motion of the same. Dated September 13, 1882.
- „ 4368. G. S. Marshall, of Birmingham, Brass Founder, for improvements in venetian window blinds. Dated September 14, 1882.
- „ 4369. W. A. MacLeod, of Birkenhead, Cheshire, for improvements in and relating to window-sash fasteners. Dated September 14, 1882.
- „ 4377. L. Silvermann, of Westminster, London, for improvements in lock-stitch sewing machines, and in the shuttles and thread bobbins or cops employed therein. Dated September 14, 1882.
- „ 4385. T. J. Sloan, of St. Maudé, 75, Rue de Paris, Civil Engineer, for improvements in nails and screws, bolts, and other like articles, and in machinery to be employed in the said manufacture. Dated September 14, 1882.
- „ 4399. J. Buckland, of Taunton, Somersetshire, Ironmonger, for a new or improved instrument or apparatus to be applied to the treadle of bicycles, tricycles, and other velocipedes, and to the treadles of sewing machines and other machines. Dated September 15, 1882.
- „ 4402. S. S. Hellyer, of Newcastle-street, Strand, London, Engineer, for improvements in supply and waste valves for baths and lavatories and in apparatus for trapping off and affording access to waste pipes and drains, and for flushing the same. Dated September 15, 1882.
- No. 4414. E. Marshall, of Birmingham, Mechanical Engineer, for improvements in tricycles and other velocipedes. Dated September 16, 1882.
- „ 4416. A. M. Clark—a communication from V. Popp, of Paris, for improvements in increasing the illuminating power of gases, and in burners and regulating apparatus for use in connection therewith. Dated September 16, 1882.
- „ 4420. M. Merichenski, of Stainsby-road, Poplar, London, for improvements in or connected with gaseliers, chandeliers, and electroliers, also applicable to the raising and lowering of other sliding appliances. Dated September 16, 1882.
- „ 4427. W. Lloyd, of Newport, Monmouthshire, Marine Engineer, for improvements in valves. Dated September 18, 1882.
- „ 4430. J. Imray—a communication from R. H. Lecky and J. Hay, both of Pittsburg, Pennsylvania, United States, for improvements in water closets and in valves for these and other services. Dated September 18, 1882.
- „ 4433. C. W. Spong, of 4, Great St. Helens, London, Ship Broker, for an improved knife cleaning machine. Dated September 18, 1882.
- „ 4438. J. W. Andrews, of Whittlesea, Cambridgeshire, for improvements in blind roller furniture, also applicable to other similar rollers. Dated September 19, 1882.
- „ 4443. H. McClintock Alexander, Captain in the Royal Navy, of Castle Rowe, Coleraine, Ireland, for an improved combined spade and pick. Dated September 19, 1882.
- „ 4444. S. Beaven, of Campinas, Sao Paulo, Brazil, for improvements in the manufacture of nails and screws. Dated September 19, 1882.
- „ 4445. E. Horton, of 239, Bradford-street, Birmingham, Gas Chandelier Manufacturer, for lighting and sliding of gas chandeliers. Dated September 19, 1882.
- „ 4449. W. Y. Stevens, of Thomas-street, Bristol, for improvements in combined range and register grates. Dated September 19, 1882.
- „ 4453. R. Cruikshank, junior, of Denny, Stirling, North Britain, for improvements in swivelling or revolving chairs. Dated September 19, 1882.
- „ 4457. J. Lucas, of Birmingham, Manufacturer, for improvements in connecting lamps to the shafts of bicycles, tricycles, and other velocipedes and to other shafts. Dated September 19, 1882.
- „ 4468. C. A. Snow—a communication from L. Triplett, junior, of Mt. Jackson, Virginia, United States, for nutlocks. (Complete Specification.) September 19, 1882.
- „ 4470. D. Pidgeon, of Holmwood, Putney-hill, London, for improvements in tricycles and bicycles. Dated September 20, 1882.
- „ 4473. C. Clarke, of Westmoreland, Jamaica, and at present of London, for improvements in bicycles and tricycles, parts of which improvements are also applicable to other apparatus wherein motive-power is to be obtained and applied. Dated September 20, 1882.
- „ 4475. J. Hain—a communication from J. B. Hain, of Newark, Ohio, United States, for improved means for preventing noise of sewing machines when attached to stands by hinges. Dated September 20, 1882.

- No. 4479. W. McNicol, of Leith, Midlothianshire, North Britain, for improvements in appliances for securing windows. Dated September 20, 1882.
- „ 4482. H. Hall, of Wetherby, and T. W. Hall, of Snefield, both in Yorkshire, for an improved manufacture or construction of handles for table cutlery. Dated September 20, 1882.
- „ 4485. W. P. Thompson—a communication from Messieurs D-Sauges and N. A. Aubertin and Madame V. Grangier, all of Paris, for improvements in shields, for protecting, strengthening, or concealing buttons and button holes, also applicable for purposes of ornamentation. Dated September 20, 1882.
- „ 4488. F. Kingston, of Abyn-road, St. John's, Kent, for improvements in hair pins, and in apparatus for manufacturing the same. Dated September 20, 1882.
- „ 4493. W. R. Lake—a communication from G. Usher and C. Dickerman, both of Boston, Massachusetts, United States, for improvements in registering padlocks. Dated September 20, 1882.
- „ 4496. M. A. F. Mennons—a communication from F. H. Monmon, of Montreuil-sous-Bois, near Paris, for improvements in the mode of and machinery for manufacturing wire netting. Dated September 20, 1882.
- „ 4497. J. Spielmann, of 2, Westbourne-terrace, London, for improvements in gas lamps. Dated September 21, 1882.
- „ 4499. B. Hague, of Nottingham, for improvements in stitching machines. Dated September 21, 1882.
- „ 4501. A. M. Clark—a communication from J. A. Groebli, of New York, United States, for improvements in embroidering machines. (Complete Specification.) Dated September 21, 1882.
- „ 4506. W. Brown and D. Robertson, both of Glasgow, for improved combination nut-crackers. Dated September 21, 1882.
- „ 4513. H. Gardner—a communication from R. Wuensehe, of Herrnhut, Saxony, for improvements in potato planting machines. Dated September 21, 1882.
- „ 4519. J. Leather, of Liverpool, Merchant, and J. K. Leather, Manufacturer, of Liverpool, for improvements in ventilating saloons, state rooms, and cabins of steam and other ships. Dated September 22, 1882.
- „ 4520. I. Naseb, of Whitechapel-road, London, Engineer, for an improved button-hole attachment for sewing machines. Dated September 22, 1882.
- „ 4522. J. Lokie, of Glasgow, for improvements in spring mattresses. Dated September 22, 1882.
- „ 4524. J. S. Willway, of 17, Augustine's Parade, Bristol, Gas Engineer, for improved arrangement of gas and oil-cooking and heating stoves, and in covers for such stoves. Dated September 22, 1882.
- „ 4531. W. J. Ingram, of the Strand, Westminster, London, for improvements in perambulators and other wheeled vehicles. Dated September 22, 1882.
- „ 4568. A. J. Billing, of Holborn, London, Ironmonger, for improvements in apparatus for heating water. Dated September 26, 1882.
- „ 4573. J. Imray—a communication from E. Arnould, of Paris, for a new or improved portable electrical apparatus for lighting gas flames. Dated September 26, 1882.
- „ 4592. H. Blair, of Glasgow, Architect, for improvements in ventilating appliances for soil pipes and other waste water discharge pipes. Dated September 27, 1882.
- No. 4594. W. L. Wise—a communication from F. Besnard, of Paris, for improvements in lamps, particularly applicable to lamps of the kind used in illuminations. Dated September 27, 1882.
- „ 4597. T. Warwick, of Aston, near Birmingham, Manufacturer, for improvements in bicycles, tricycles, and other velocipedes. Dated September 27, 1882.
- „ 4600. W. R. Lake—a communication from H. R. Heyl, of Philadelphia, Pennsylvania, United States, for an improved device to be used for the suspension of pictures or other articles and for similar purposes. Dated September 27, 1882.
- „ 4614. F. R. Baker, of Birmingham, Engineer, for improvements in clips for securing tyres on the wheels of bicycles, tricycles, and other velocipedes and carriages. Dated September 28, 1882.
- „ 4615. C. P. Evans, of Birmingham, for improvements in sewing machines. Dated September 28, 1882.
- „ 4618. E. Whillier, of Stoke Newington, London, for improvements in fire grates or stoves. Dated September 28, 1882.
- „ 4620. H. Harris, of Northampton, for improvements in safes or boxes for containing money or other valuable articles. Dated September 28, 1882.
- „ 4628. R. Davidson, of Glasgow, Engineer, for improvements in mechanism for facilitating the boring and tapping of holes in boiler plates, the putting in of stays or studs, the fixing or expanding of tubes, and similar operations. Dated September 29, 1882.
- „ 4629. A. Gibbs, of Birmingham, Manufacturer, for improvements in tricycles or velocipedes. Dated September 29, 1882.
- „ 4631. F. G. Kinnaird, of 13, Elsworth-terrace, Primrose-hill, London, for the improvement of bicycles, tricycles, &c., it is also applicable to other machinery. Dated September 29, 1882.
- „ 4652. T. Young and G. C. Wood, both of Sheffield, for new or improved appliances for securing windows and doors. Dated September 30, 1882.
- „ 4654. L. Hager, of Solingen, Germany, temporarily of Westminster, London, for improvements in folding knives, spoons, and forks. Dated September 30, 1882.
- „ 4668. S. Miller, of 402, Kennington-road, London, Engineer, for improvements in velocipedes. Dated September 30, 1882.
- „ 4688. A. J. Boulton—a communication from W. Maek and J. B. Deeds, both of Terre Haute, Indiana, United States, for improvements in nut locks. (Complete Specification.) Dated October 2, 1882.
- „ 4698. H. C. Bull, of Brooklyn, New York, United States, but at present of 1, Hackins Hey, Liverpool, for improvements in and relating to tricycles. Dated October 3, 1882.
- „ 4700. S. Sturm, of Cologne, Germany, for improvements in apparatus for use in connection with stoves, fire places, and kitchen ranges, for economising fuel and preventing the entrance of deleterious gases into the locality to be heated. Dated Oct. 3, 1882.
- „ 4704. B. J. La Mothe, M. D., of New York, United States, for improvements in metallic frames for bedsteads, chairs, lounges, and other articles of furniture, and in the spring bottoms and backs for the same. Dated October 3, 1882.
- „ 4705. T. A. Brown, of Bude Lodge, South Norwood-hill, London, for improvements in the manufacture of vessels for domestic use, the contents of which are required to be kept at a temperature higher than that of the atmosphere. Dated October 3, 1882.

- No. 4707. G. E. Vaughan and J. Walton, both of West Bromwich, Staffordshire, Mechanical Engineers, for a new or improved stand for supporting bicycles, tricycles, and other velocipedes during stationary practice or exercise on the said bicycles, tricycles, and velocipedes, and for other uses, and new or improved distance registering apparatus connected with the said stand. Dated October 3, 1882.
- „ 4711. W. Briscall, of Liverpool, for improvements in tricycles and other velocipedes. Dated October 3, 1882.
- „ 4715. J. Bateman, of Holborn, London, for improvements in stoves and fire places. Dated October 4, 1882.
- „ 4725. W. R. Lake—a communication from J. L. Wilson, of Waltham, Massachusetts, United States, Mechanic, for improvements in and relating to bicycle seats or saddles. Dated October 4, 1882.
- „ 4726. W. A. Barlow, a communication from F. W. Boldt, and P. C. A. Vogel, of Hamburg, Germany, for improvement in door lock or latch checks. Dated October 4, 1882.
- „ 4727. W. A. Barlow—a communication from Monsieur L. Henry, of Brussels, for improvements in trapping sewers and drains, and in traps therefor. Dated October 4, 1882.
- „ 4729. E. Brown, of Birmingham, Jewellers' Glass Cutter, for improvements in tricycles, bicycles, and other velocipedes. Dated October 4, 1882.
- „ 4731. J. Drewitt, of Peckham, London, Ironmonger's Manager, for improvements in connecting spindles to locks and latches, and in connecting spindles to other articles, and in connecting the knobs and roses of door knobs. Dated October 4, 1882.
- „ 4739. A. Gandelien, of Brussels, Engineer, for improvements in ventilators. Dated October 5, 1882.
- „ 4741. H. Sutcliffe, of the firm of Wright, Sutcliffe and Son, of Halifax, Yorkshire, Brass Founders and Sanitary Engineers, for improvements in bicycles and tricycles. Dated October 5, 1882.
- „ 4742. W. Edwards, of Wolverhampton, Staffordshire, Edge Tool Manufacturer, for improvements in plantation and other hoes and in the method of manufacturing the same. Dated October 5, 1882.
- „ 4743. H. Habcock, of Kennington, London, for improvements in fastenings for doors and window sashes. Dated October 5, 1882.
- „ 4763. F. R. Mosley, of Yerbury-road, London, for improved burner for gas fires. Dated October 6, 1882.
- „ 4783. G. Hmdle, of Southampton, for improvements in or relating to the opening and closing of window sashes and the like, and in apparatus therefor. Dated October 7, 1882.
- „ 4790. G. W. Quatremaire, of Stratford-on-Avon, Warwickshire, Artist, for improvements in velocipedes. Dated October 7, 1882.
- „ 4796. Sir J. M. Douglass, of Dulwich, London, for improvements in burners. Dated October 9, 1882.
- „ 4799. J. M. Sellers, of Keighley, Yorkshire, Sewing Machine Manufacturer, for improvements in machines for cutting out cloth and other materials. Dated October 9, 1882.
- „ 4800. G. Wightman, of Retford, Nottinghamshire, for improvements in apparatus for governing the flow of water under pressure. Dated October 9, 1882.
- „ 4803. W. Britain, junior, of Nugent House, Lambton-road, Hornsey-rise, London, for improvements in gearing for bicycles, tricycles, and similar vehicles for altering the speed. Dated October 9, 1882.
- No. 4811. A. J. Boulton—a communication from G. R. Elliott, of Boston, and J. M. Winslow, and T. E. Clary, both of Norwood, all in Massachusetts, United States, for improvements in door stops or checks. Dated October 10, 1882.
- „ 4812. T. Christy, of 155, Fenchurch-street, London, Merchant, for improved incubator. Dated October 10, 1882.
- „ 4813. W. T. Suggs, of Vincent-street, Westminster, Engineer, for improvements in apparatus for lighting by gas. Dated October 10, 1882.
- „ 4814. W. Motherwell, of Glasgow, for improvements in the construction of moulders' nails and chaplets. Dated October 10, 1882.
- „ 4815. J. G. Perkins and J. Scott, both of Sandal, near Wakefield, Yorkshire, for improvements in tools and cutters for boring taper holes. Dated October 10, 1882.
- „ 4820. A. M. Clark—a communication from W. F. Thompson, of San Francisco, California, United States, for improved apparatus for stopping leaks and boiler tubes and other tubes or pipes. Dated October 10, 1882.
- „ 4828. J. T. B. Bennett, of Anglesea-street, Lozells, Aston-juxta-Birmingham, Manufacturer, for an improved mode or means of propelling tricycles and other vehicles, which invention is applicable to other purposes. Dated October 11, 1882.
- „ 4837. C. Truman, of Birmingham, Bicycle and Tricycle Manufacturer, for improvements in the construction of vehicles propelled by human force. Dated October 11, 1882.
- „ 4839. A. J. Boulton—a communication from C. E. Boyle, of Milton, Pennsylvania, United States, for improvements in sash balances. Dated October 11, 1882.
- „ 4840. W. Teague, junior, of Pool, Cornwall, for improved arrangements for supplying feed-water to boilers, applicable for other purposes. Dated October 11, 1882.
- „ 4841. W. Teague, junior, of Pool, Cornwall, for improved balance valve, especially applicable as outlet valve for air compressor. Dated October 11, 1882.
- „ 4842. F. Garon, of Southend, Essex, Ironmonger, for improvements in locks or door fastenings. Dated October 11, 1882.
- „ 4847. J. Rettie, of Kirby-street, Hatton-garden, London, Engineer, for improvements in velocipedes. Dated October 12, 1882.
- „ 4850. W. Teague, of Illogan, Cornwall, Engineer and Mine Manager, for improvements in apparatus for ventilating purposes. Dated October 12, 1882.
- „ 4859. G. W. Von Nawrocki—a communication from L. Schmetzer, of Rothenburg-on-the-Tauber, Germany, for improvements in bicycles and other velocipedes. Dated October 12, 1882.
- „ 4863. A. M. Clark—a communication from P. Costes, of Bourges, France, for improvements in reflectors for gas and other globes. Dated October 12, 1882.

Letters Patent have been issued for the following:—

- No. 1176. T. F. D. Heap, of Wilmington-square, London, Metal Worker, and J. Rettie, of Hatton-garden, London, Engineer, for a new or improved spoon. Dated March 10, 1882.
- „ 1406. W. J. Holroyde, of Manchester, Mechanical Engineer, for improvements in cork screws. Dated March 23, 1882.
- „ 1425. A. Pengelly and R. Day, both of Highbridge, Somersetshire, for improvements in velocipedes applicable for use on land or water. Dated March 24, 1882.

- No. 1469. J. A. Fricake and T. McCormick, both of 36, Seething-lane, London, for improvements in tube leaders. Dated March 31, 1882.
- „ 1577. S. Walker, of Birmingham, Manufacturer, for improvements in the manufacture of copper tubes. Dated March 27, 1882.
- „ 1584. G. L. Shorland, of Manchester, for improvements in and in parts connected with fire-places or grates and stoves. Dated April 1, 1882.
- „ 1623. A. E. Gorse, of the firm of W. Gorse and Sons, of Birmingham, for improvements in bicycles. Dated April 4, 1882.
- „ 1655. H. Conolly, of 53, and 55, Hampstead-road, and 169 and 171, Drummond-street, London, Lead, Glass, Zinc, Color, and Oil Merchant, for improvements in water closets. Dated April 5, 1882.
- „ 1680. W. Scantlebury, of Kenninghall-road, Lower Clapton, London, for improvements in bicycles and other velocipedes. Dated April 6, 1882.
- „ 1712. W. Lightbody, of the firm of T. Rowatt and Sons, of Edinburgh and London, for improvements in or connected with lamp burners. Dated April 11, 1882.
- „ 1744. A. Guillaume and A. Lambert, of Tosses, Belgium, Watchmakers, for improvements in sewing machines. Dated April 12, 1882.
- „ 1757. J. Thurlow and A. Sykes, both of Wakefield, Yorkshire, for improvements in water gauges. Dated April 13, 1882.
- „ 1758. P. Mara, of 100, Disraeli-road, Putney, London, and J. Winsor, of 211, Liverpool-road, London, for an improved billiard marking and checking apparatus. Dated April 13, 1882.
- „ 1785. T. Rowan, of Coleshill-street, London, and of Mosley-street, Manchester, Engineer, for improvements in ventilating, and apparatus therefor. Dated April 14, 1882.
- „ 1792. A. W. L. Reddie—a communication from A. Huber, of Cologne, Germany, for improvements in ventilators for buildings, railway carriages, ships, and similar structures. Dated April 14, 1882.
- „ 1793. J. White, of Coventry, Manager of Bicycle Works, for improvements in velocipedes. Dated April 14, 1882.
- „ 1795. A. M. Clark—a communication from A. Marland and T. Neely, both of Pittsburgh, Pennsylvania, United States, for improvements in machines for making nut and bolt blanks and rivets. Dated April 14, 1882.
- „ 1812. W. Morgan, of Cannon-street, Birmingham, Manufacturer, for an improvement or improvements in or relating to tricycles, which may be applied to similar vehicles. Dated April 17, 1882.
- „ 1813. E. A. Brydges—a communication from E. d'Aubigny, of Vienna, for improvements in traps or apparatus for catching rats, mice, and other animals. Dated April 17, 1882.
- „ 1859. H. E. Newton—a communication from A. Winkler, of Paris, for improvements in velocipedes. Dated April 18, 1882.
- „ 1863. A. M. Clark—a communication from L. L. T. F. d'Automarche, of Paris, for an improved pocket filter. Dated April 18, 1882.
- „ 1967. H. J. Haddan—a communication from H. Kappeller, junior, of Vienna, for improvements in maximum and minimum thermometers. Dated April 26, 1882.
- „ 2032. A. M. Clark—a communication from A. Parise, of Paris, France, and C. Flandin, of Naples, Italy, for improvements in locks. Dated April 29, 1882.
- No. 2584. A. D. Pentz, of Elizabeth, New Jersey, United States, now of Glasgow, for mechanism for starting, driving, and stopping sewing machines. Dated June 1, 1882.
- „ 2679. T. Brooke and J. Brooke, both of Sheffield, for improvements in attaching handles to cutlery, teapots and other similar articles, and in securing fernules to handles. Dated June 7, 1882.
- „ 3100. W. R. Lake—a communication from A. Neustadt, of San Francisco, California, United States, for improvements in machinery for sewing carpets or the like. Dated June 30, 1882.
- „ 3282. J. Ingleby—a communication from the Berlin-Anhaltische, Maschinenbau-Actien-Gesellschaft, of Berlin, and G. Liegel, of Stralsund, Germany, for an improved fastening for lids, covers, furnace doors, and the like. Dated July 11, 1882.
- „ 3346. W. R. Lake—a communication from W. H. Alden, of Boston, Massachusetts, United States, for improvements in sewing machines, chiefly designed for the manufacture of boots and shoes. Dated July 14, 1882.
- „ 3486. J. Leather, of Liverpool, Merchant, for improvements in ventilating appliances. Dated July 22, 1882.
- „ 3683. W. R. Lake—a communication from H. F. Newbury, of Brooklyn, New York, United States, for improvements in and relating to locking mechanism for safes, vaults, and other structures, and means for securing and protecting the same. Dated August 2, 1882.

PATENTS WHICH HAVE BECOME VOID.—

- No. 3530. G. J. Snelus, of Worington, Cumberland, for improvements in apparatus for the manufacture of iron and steel. Dated September 3, 1879.
- „ 3550. T. Forshaw, of Smalley, Derbyshire, for improvements in bicycles. Dated September 4, 1879.
- „ 3552. C. Cheswright, of Parkhurst-road, London, for improvements in canisters or other like receptacles. Dated September 4, 1879.
- „ 3557. W. Gibson, of Afton, near Birmingham, Manager of Works, for improvements in window sash fastenings. Dated September 4, 1879.
- „ 3564. N. K. Husberg, of Stockholm, Sweden, for improvements in or connected with the construction and working of bicycles, tricycles, and other velocipedes. Dated September 4, 1879.
- „ 3569. C. F. Foster, of Kennington-park, London, for improvements in bicycles. Dated September 5, 1879.
- „ 3574. T. P. Lomas, of 155, Moor-street, Birmingham, and of 141, Bridge-road, Battersea, London, for improvements in spoons. Dated September 5, 1879.
- „ 3575. J. Hardinge, of Holbrook House, Canterbury-road, Brixton, London, for improvements in portable forges, constituting a combined tool for smith's work. Dated September 5, 1879.
- „ 3580. H. A. Bonneville—a communication from C. Lesobre, of Rue de la Vieille, Estrapade, Paris, for a new and improved oven for baking bread, meat, and other food, applicable for other purposes requiring fire or heat. Dated September 6, 1879.
- „ 3591. T. Scourfield, of Mostyn-road, Bow, London, for improvements in the construction of carriage door fasteners. Dated September 6, 1879.
- „ 3606. J. Ireland, of Dundee, North Britain, Washing Machine and Shuttle Manufacturer, for improvements in domestic washing machines. Dated September 8, 1879.

- No. 3615. J. Jenkins, of Cardiff, Glamorganshire, Millwright and Engineer, for improvements in cleaning tin and terne plates, and in the machinery or apparatus to be employed therein. Dated September 9, 1879.
- „ 3619. D. Whitehouse, of the Abercarne Iron and Tin Plate Works, near Newport, Monmouthshire, Tin Plate Manufacturer, for improvements in the manufacture of tin, terne, and similar plates, and in apparatus therefor. Dated September 9, 1879.
- „ 3635. H. W. Iles—a communication from J. Broel, of the "Brighton and Marine Hotel," Boulogne, France, for improvements in spring surfaces for reclining or sitting upon, applicable to beds, berths, couches, chairs, and other similar articles of furniture. Dated September 11, 1879.
- „ 3637. J. Ballantine, of Edinburgh, Engineer, for a new or improved portable washing machine. Dated September 11, 1879.
- „ 3639. P. S. Justice—a communication from J. E. Folk, of Brooklyn, New York, United States, Manufacturer, for improvements in sewer pipe connections and stench traps. Dated September 11, 1879.
- „ 3655. J. Smith, of Walmley, near Birmingham, Civil Engineer and Architect, for improvements in domestic stoves, grates, and cooking-ranges, and their chimneys. Dated September 12, 1879.
- „ 3662. H. Lunn, of 3 and 5, Bridge-street, Horncastle, Lincolnshire, Lawn Tennis Outfitter, for an improved method of scoring in the game of lawn tennis by means of dials affixed to the handles of racquets, or to be used separately. Dated September 13, 1879.
- „ 3664. H. Braithwaite and W. Braithwaite, of Swingate, Leeds, for improvements in the supply of water closets, &c. Dated September 13, 1879.
- „ 3665. G. F. Abel, of Birmingham, Coach-smith, and F. R. Abel, of Wolverhampton, Coach Spring Manufacturer, for improvements in springs. Dated September 13, 1879.
- „ 3745. B. Kitt, of Bristol, Civil and Gas Engineer, for improvements in gas lamps. Dated September 18, 1879.
- „ 3754. F. D. Taylor, of Aston, near Birmingham, Soap Manufacturer, for improvements in apparatus for washing or cleansing linen and other fabrics, clothes, and other articles. Dated September 18, 1879.
- „ 3759. J. W. Sutton, of High Holborn, London, for improvements in lawn-mowing machines. Dated September 18, 1879.
- „ 3767. W. Howes and W. Burley, trading as Howes and Burley, of Birmingham, Manufacturers, for improvements in carriage lamps, and in attaching lamps to carriages, bicycles, and other velocipedes. Dated September 19, 1879.
- „ 3782. J. Dodd, of Liverpool, for improvements in and relating to flushing cisterns for water closets, also applicable to other purposes where it is required to discharge a given or measured quantity of liquid. Dated September 20, 1879.
- „ 3801. E. Zerkowsky, of Bermondsey, London, Merchant, and C. Reimers, of Mornington-road, Regent's-park, London, Artist, for an improved oil lamp. Dated September 22, 1879.
- „ 3837. J. Meeson, of the firm of Meeson and Green, Sheffield, Electroplate Manufacturers, for improvements in hinged lids or covers for boxes, dishes, plates, baskets, and other like receptacles, and in the handles and hinges therefor. Dated September 24, 1879.
- No. 3845. B. Hunt—a communication from J. H. Brown, of Brooklyn, New York, United States, Machinist, for improvements in sewing machines for hem-stitching handkerchiefs and other fabrics. Dated September 24, 1879.
- „ 3859. H. J. Haddan—a communication from T. G. Hall, of New York, United States, for improvements in vices. Dated September 25, 1879.
- „ 3866. W. P. Thompson—a communication from W. S. Cooper, of Philadelphia, United States, for improvements in water closets and their appurtenances or accessories; parts of which improvement, more especially those relating to the supply and stop cocks and the supply tank apparatus are applicable for similar articles for other purposes than waterclosets. Dated September 25, 1879.
- „ 3895. J. Imray—a communication from E. Delessert, of Paris, for improvements in springs for carriages. Dated September 27, 1879.
- „ 3896. F. H. F. Engel—a communication from A. Becker, of Hamburg, Germany, for an improved composition for preventing the oxydizing of metals. Dated September 27, 1879.
- „ 3919. A. Smith and R. Smith, both of Glasgow, Plumbers and Brass Founders, for improvements in lavatories, waterclosets, and commodes. Dated September 30, 1879.
- „ 3934. H. J. Lawson, of Coventry, for improvements in the construction of bicycles and other velocipedes, and in apparatus to be used in connection therewith: Dated September 30, 1879.
- „ 3936. S. Goff, Pattern Maker, and F. Potter, Pattern Maker, both of Birmingham, for improvements in mechanism for gripping and releasing the cords of roller blinds, venetian blinds, skylights, and pulley blocks; which improvements are also applicable to the gripping and releasing or the travelling or running cords of other articles. Dated September 30, 1879.
- „ 3940. W. Waide, of Leeds, Cooper and Churn Manufacturer, for improvements in the construction of churns. Dated October 1, 1879.
- „ 3942. C. Shaw, of Wolverhampton, Architect and Surveyor, for improvements in horticultural boilers, such improvements being also applicable to other boilers, and to apparatus for heating air and other gases. Dated October 1, 1879.
- „ 3944. J. Gillings, of North View House, Great Yarmouth, Norfolk, for a new or improved window cleaner, applicable also for various cleaning purposes. Dated October 1, 1879.
- „ 3948. J. Kroog, of Hall-on-the-Saale, Prussia, for an improved filtering apparatus. Dated October 1, 1879.
- „ 3949. G. W. von Nawrocki—a communication from G. Neidlinger, of Hamburg, Germany, for improvements in button-hole stitching apparatus for sewing machines. Dated October 1, 1879.
- „ 3957. P. M. Justice—a communication from F. Teal, Mechanical Engineer, and G. G. Fryer, Mechanical Engineer, both of Philadelphia, Pennsylvania, United States, for an improvement in the method of refrigerating and ventilating, and apparatus therefor. Dated October 2, 1879.
- „ 3960. J. North, of Leeds, Cabinet Manufacturer, for an improved foundation for the application of needle work to form the seats and panels of chairs, couches and other articles of furniture, together with means for distending the same. Dated October 2, 1879.

- No. 3963. D. Blacker, of Thornhill, near Dewsbury, Yorkshire, Manufacturing Chemist, for improvements in valves and in the method of applying the same for the ventilation of water mains and similar purposes. Dated October 2, 1879.
- „ 3977. E. Davey, of Edward-street, Hampstead-road, London, for improvements in sashes and sash frames, and in fittings and fastenings for the same. Dated October 3, 1879.
- „ 3980. R. Wild, of Littleborough, Lancashire, and H. Ledger, of Leek, Staffordshire, for improvements in and self-acting apparatus for treating and filtering sewage and other foul liquids, gases, and noxious vapours, also applicable to other filtering purposes. Dated October 3, 1879.
- „ 4000. J. Turner, of Coventry, Manager of the Coventry Machinists' Company, for improvements in velocipedes. Dated October 4, 1879.
- „ 4030. J. McAllister of Chicago, Illinois, United States, for improvements in sewing machines. Dated October 6, 1879.
- „ 4037. W. R. Lake—a communication from A. Edwards, of Philadelphia, Pennsylvania, United States, for improvements in water closet apparatus, chiefly designed for preventing the improper or injurious escape of noxious gases or effluvia, and which improvements are also applicable to lavatories, baths, urinals and the like. Dated October 7, 1879.
- „ 4042. J. T. Graham, of Glasgow, for improvements in the construction of furnaces or fireplaces. Dated October 6, 1879.
- „ 4046. G. W. Appleton, of Brecknock-road, London, for improvements in locks. Dated October 7, 1879.
- „ 4049. T. Janeway, of Kennington, London, for improvements in apparatus for increasing draught and preventing down draught in chimneys, and for ventilating houses, public and other buildings, drains, and other places. Dated October 7, 1879.
- „ 4055. W. R. Lake—a communication from M. G. Wilder, of Brooklyn, New York, United States, Machinist, for an improved apparatus for regulating or controlling the pressure and flow of gas or other fluid. Dated October 7, 1879.
- „ 3157. J. Grove, of Manchester, for certain improvements in waterclosets. Dated September 8, 1875.
- „ 3197. J. G. Willans, of 9, St. Stephen's-crescent, Bayswater, London, for improvements in the manufacture of iron and steel and articles therefrom. Dated September 13, 1875.
- „ 3258. Catherine Judkins, of Fleet-street, London, Gas Regulator manufacturer, for improvements in apparatus for regulating the supply of gas to gas burners. Dated September 17, 1875.
- „ 3261. J. E. Ransome, of the firm of Ransome, Sims, and Head, Engineers, and G. Ling, Foreman to the same firm, both of Ipswich, Suffolk, for improvements in lawn mowers. Dated September 17, 1875.
- „ 3303. A. P. Bell, of Manchester, Architect, and T. Thorp, of Whitefield, near Manchester, Architect, for a new and improved apparatus for lighting gas automatically. Dated September 21, 1875.
- „ 3362. A. C. Henderson—a communication from J. E. Boivin, of Paris, for improvements in canopies or hoods for application to infants' cots, beds, perambulators, and hammocks. Dated September 25, 1875.
- „ 3367. S. H. Bailey, of Salford, Lancashire, Assistant Manager, Ordsall Screw Bolt Works, Oldfield-road, Salford, for improvements in apparatus for screw cutting or chasing. Dated September 25, 1875.

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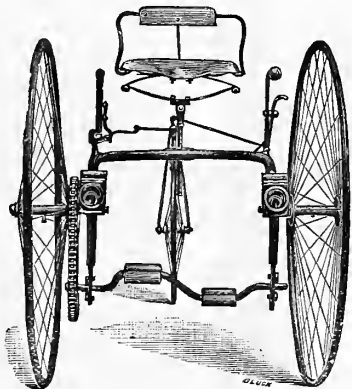
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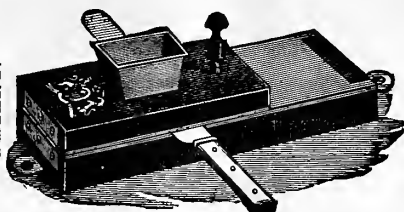
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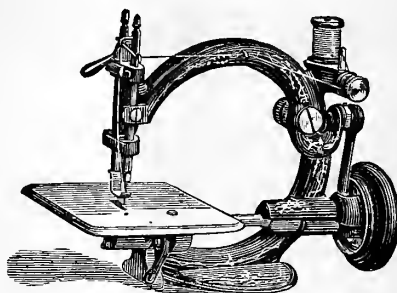
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Circular Needles	
&c. &c. &c.	



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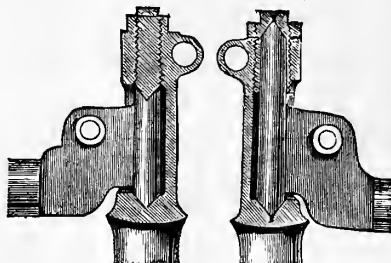
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ANDREWS' IMPROVED HEAD.

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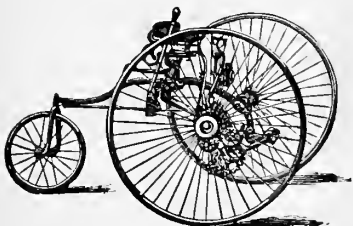
Knits Ribbed or Plain, any size, 2 Stockings at one operation. Knits every variety of Jackets, Petticoats, &c., Cardigan, Fancy or Plain, exactly same as hand.

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 Its speed is greater than ever before attained.
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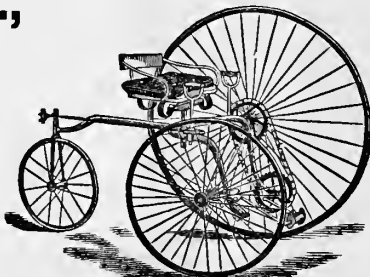
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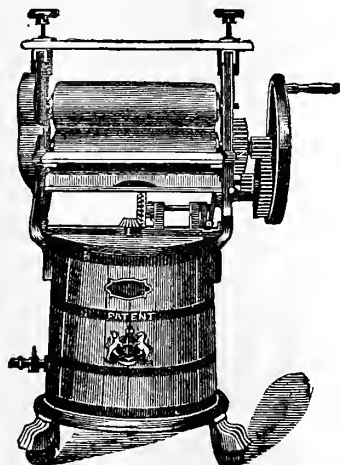
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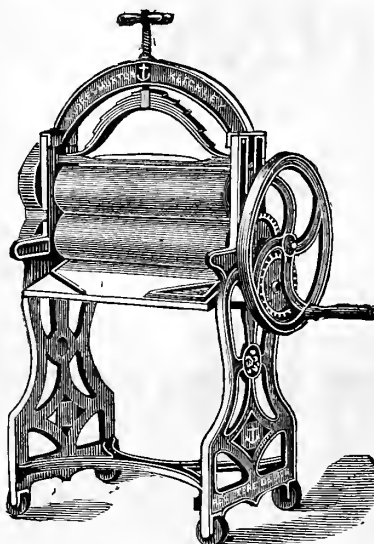


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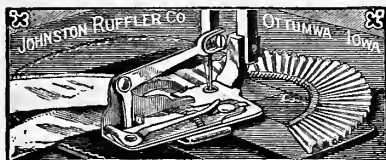
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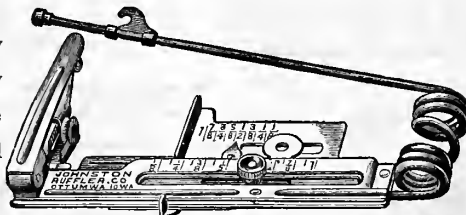
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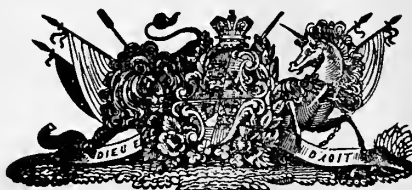
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AT 12/- PER DOZEN.
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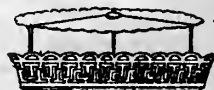
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Any size made to order

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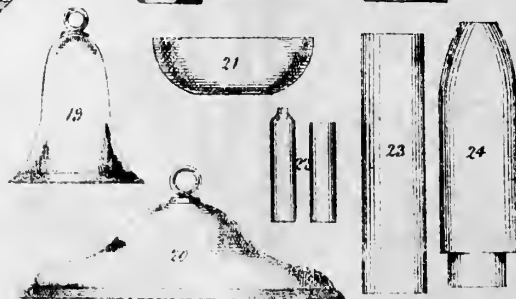
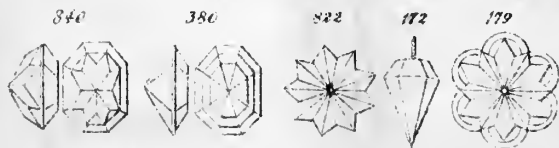
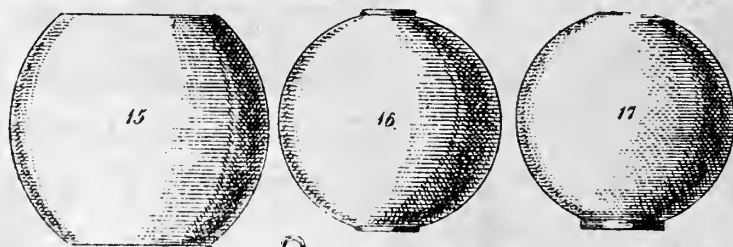
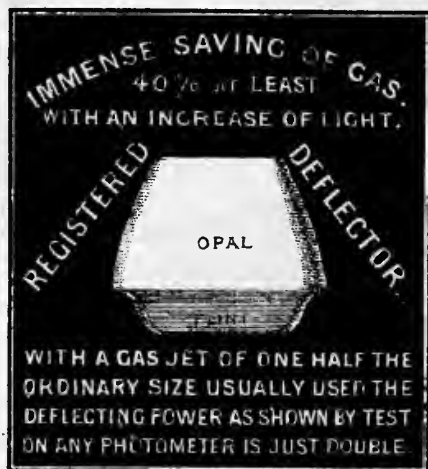
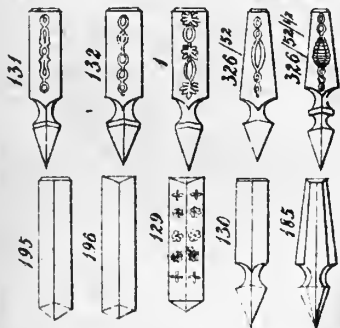
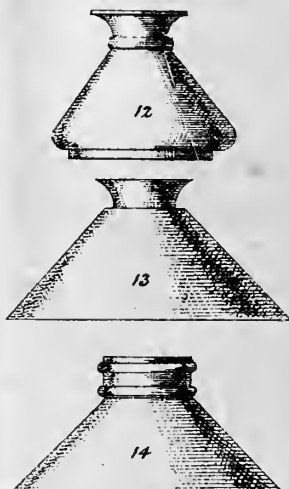
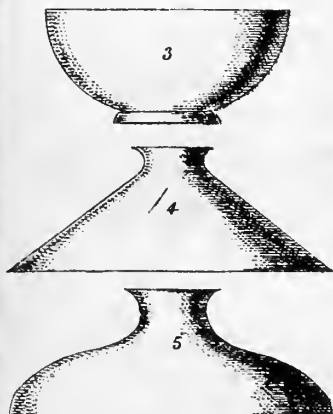
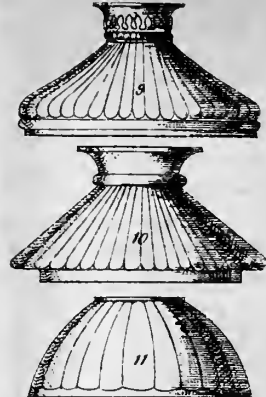
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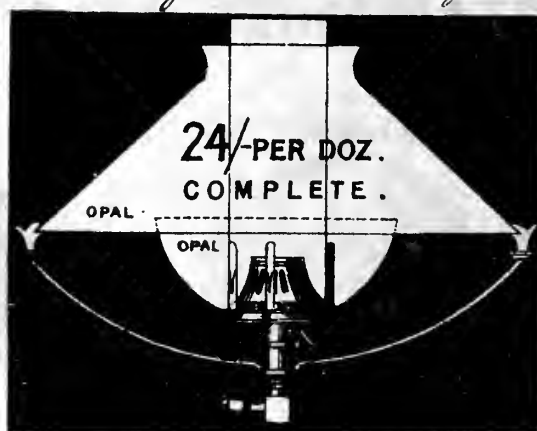
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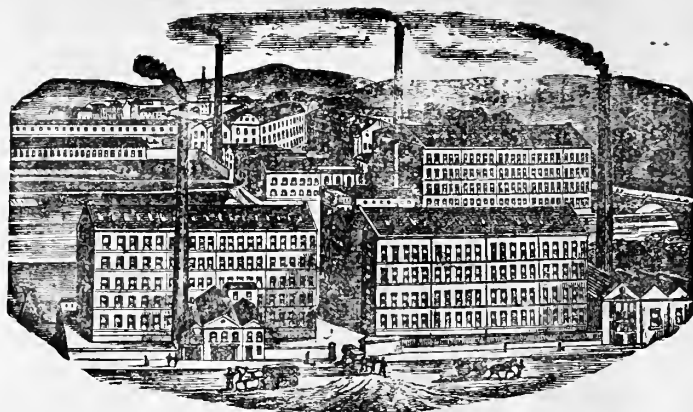


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Vol. X., No. 149.

DECEMBER 1, 1882.

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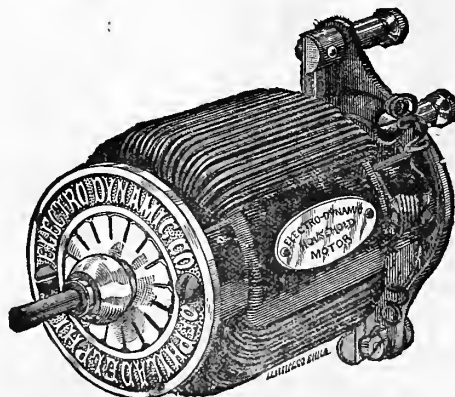


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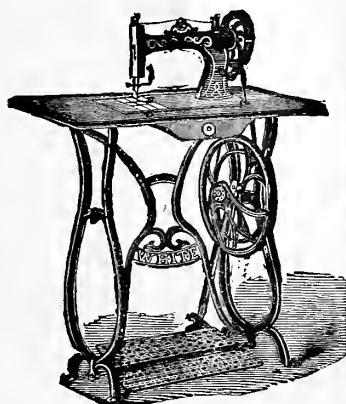
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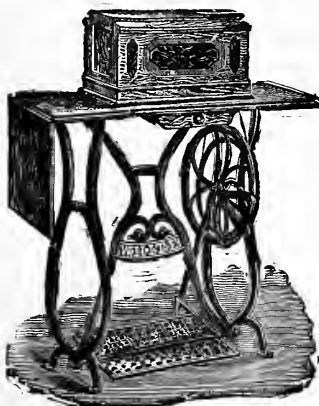
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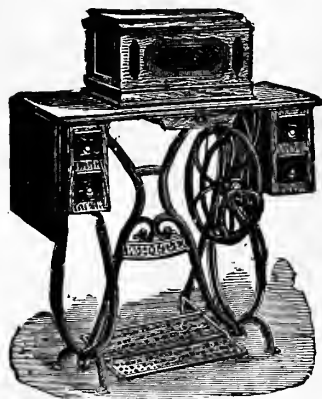
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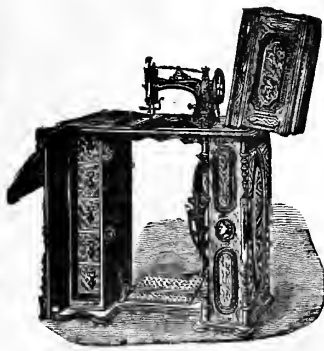
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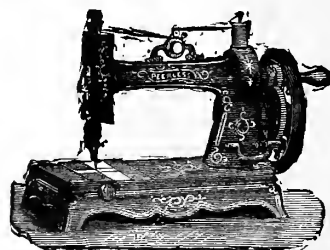
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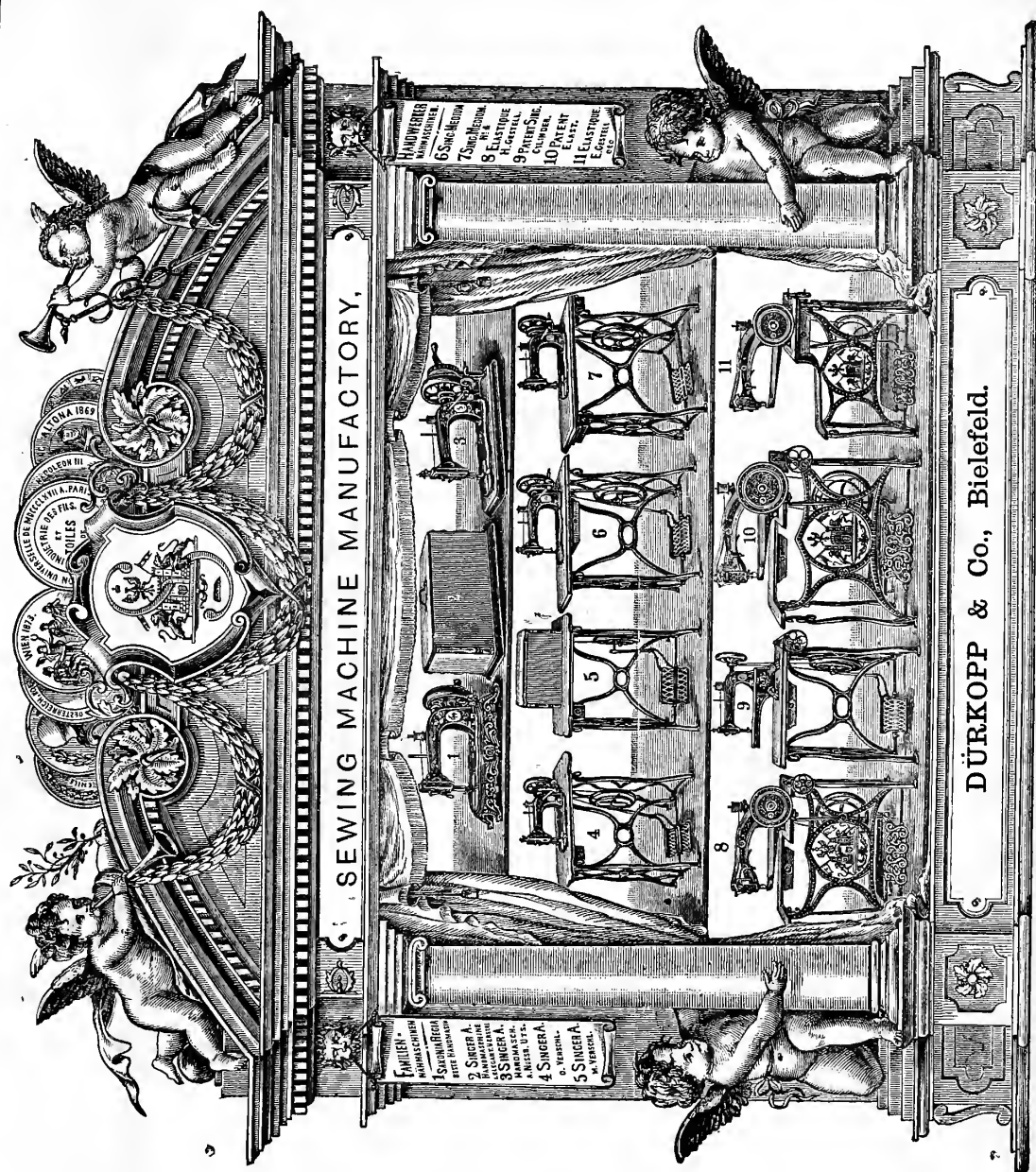
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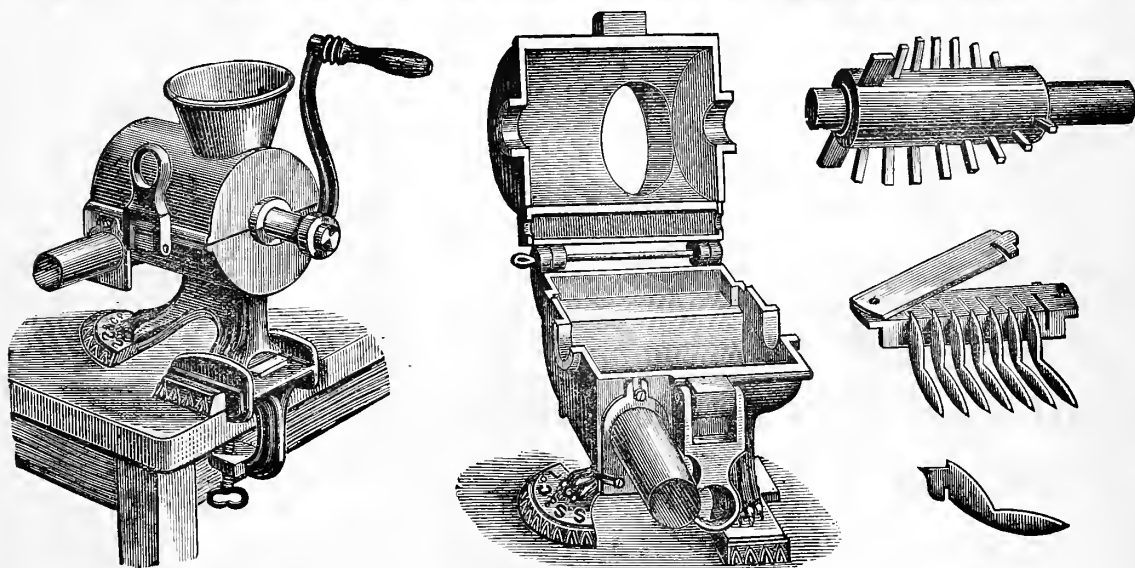
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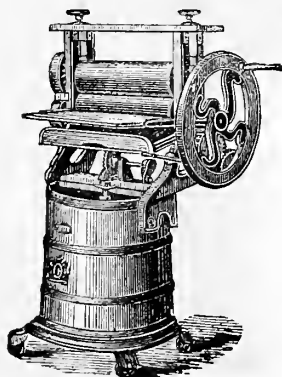
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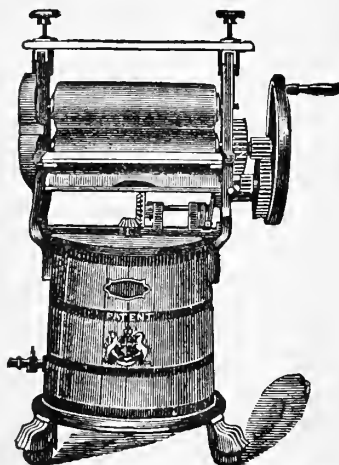
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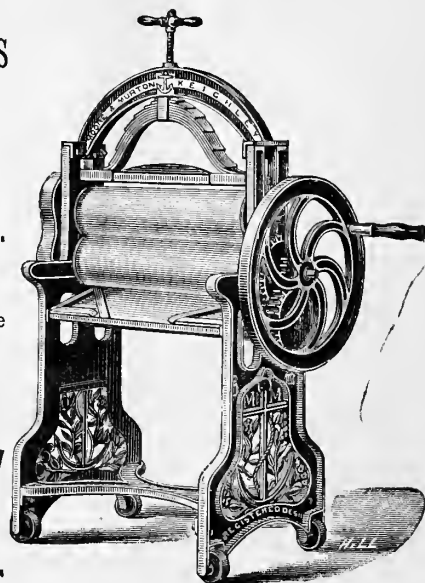


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ADVANTAGES.—Where Electric Bells are used there can be

No Burglaries. No great Damage by Fire. No breaking down of front door Bells. No saying the Bell did not ring. No inattention when Sick. No entering the lodge gates without notice. No movement of door or window without an alarm. No excuse or pretence for attempted robbery. Distance no object. The Thief's Enemy. Life Protector. Property secured. Efficiency. Economy. Durability. Elegance. Reliance. Security. Simplicity.

Estimates for fitting free. Experienced Workmen sent to all parts.

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WANZER "F" Family Machine, with Reversible Feed and Stitch Lever. £7 10s.

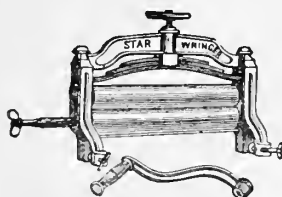
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STAR WRINGER.

This Wringer is of an entirely new and neat design, has a novel attachment whereby the Wringer can be fixed most firmly in a few moments to Washing Machines, or any Wash Tub, either round or square.

Prices.—12-in. 18s. 6d.; 14-in. 20s. 6d.; 15-in. 22s. 6d.

Trade Terms on application.

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THE "EDINBURGH" SHADOWLESS SUNLIGHT

Is the most effective and Economical Pendant for the Lighting of Shops, Offices, Schools Halls, &c.

Diameter of Ring 18-in. 22-in. 26-in. 30-in.

No. of Lights ... 3 4 6 8

Prices as shown 24 6 30 37 6 44/

Extra with Centre Husk and Cup and Ball Joint, 2/ each.

Supplied with Silvered Glass Reflectors. Opal Reflectors may be had at same prices.

Trade Discount and Prices of intermediate sizes on application.

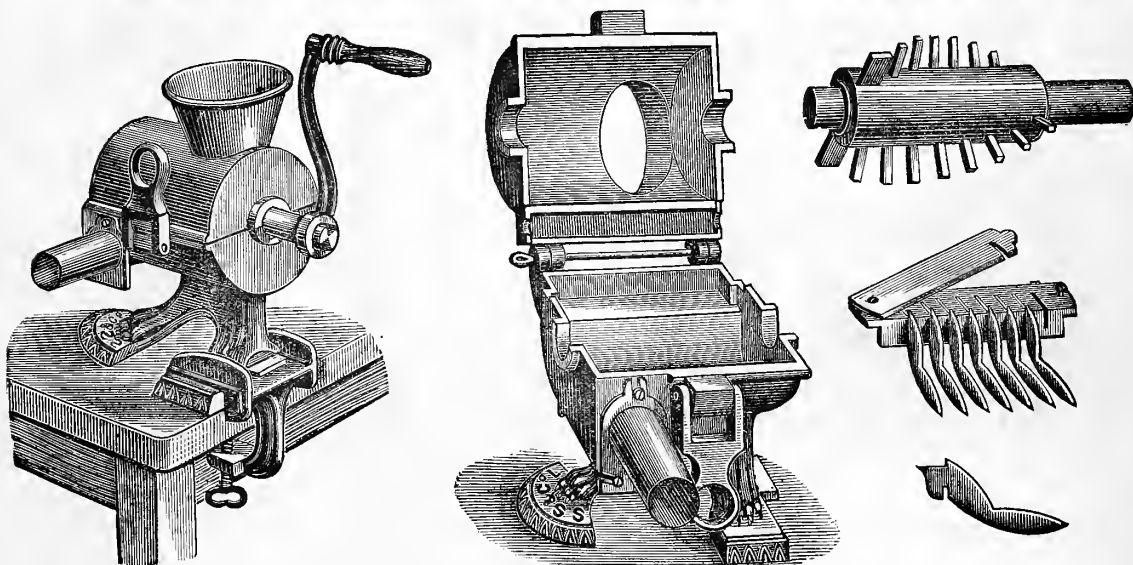
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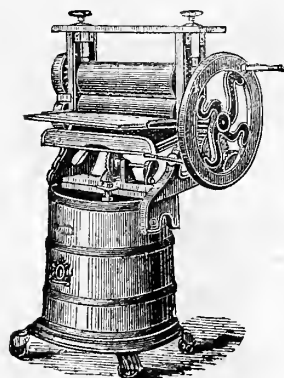
THE PATENT 'VICTORIA' MINCING MACHINE



The knives are held in position by dropping them separately into slots cut in a moveable knife bar, and are efficiently prevented from moving by means of a swivelling top plate, which covers the slots, thus preventing any substance getting into them. The knives are interchangeable, and, having two separate blades, they mince the meat in one half the time and twice as fine as the ordinary mincing machines. The revolving cutters are square steel teeth, or pins, with sharp edges fitted into a solid roller. All metals injurious to the health are avoided—no lead, tin, or zinc being used. The machines are of iron, enamelled and of best finish, and fasten to the table by means of a clamp, the knives being of the best cast steel.

SELIG, SONNENTHAL & CO.,

Sole Licensees of the Patent "Victoria" Mincing Machine, the Patent "Austria" Skate, the "Easy" Lawn Mower,
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HOLMES, PEARSON & MIDGLEY,
MANUFACTURERS OF
WASHING, WRINGING, AND MANGLING
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Manufactory-Royal Ironworks, Halifax Road, Keighley.
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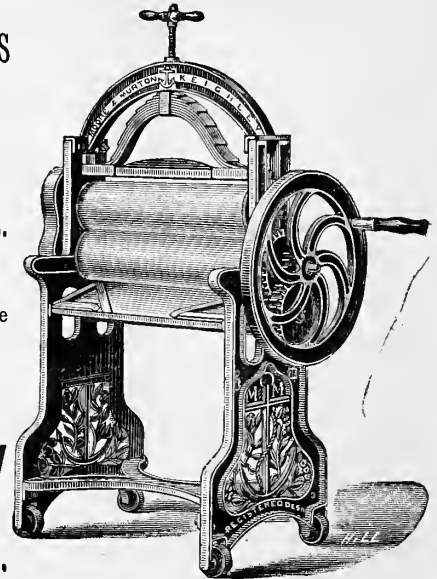
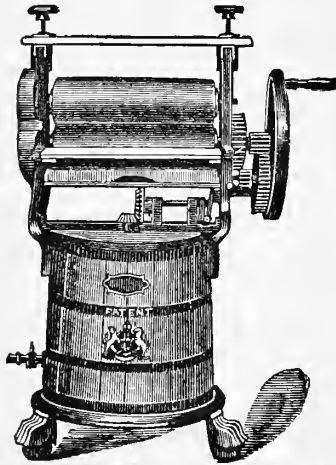
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Experienced men sent to any part of the country. Shop Fronts and Fittings manufactured especially for Exportation.

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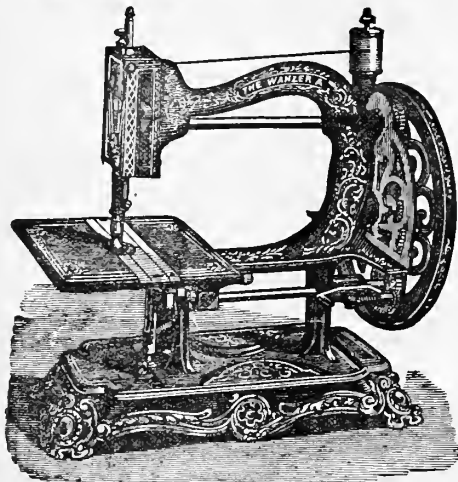
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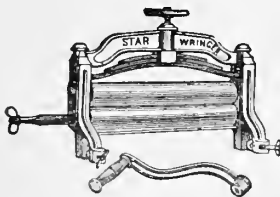
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COMMENTS OF THE MONTH.

MANCHESTER AND ITS CANAL.

THE port of Manchester is evidently a possibility of the not far distant future. Authoritative opinion in favour of the construction of the ship-canal is now backed by popular enthusiasm, and to all outsiders who say "It can't be done" the people of Manchester reply, "Then the sooner we set about it the better." The cost of opening up this communication will be enormous, but when men accustomed to the control of great commercial undertakings declare that the scheme has everything in its favour from a financial point of view, the expenditure may reasonably be voted. That the engineering difficulties in the way of constructing the canal are not insurmountable is also evident. They would certainly not be greater than those with which Sir Edward Banks had to contend in cutting the magnificent ship-canal between Wisbeach and the Wash. The question which the people of Manchester have to consider with regard to the proposed undertaking is, as Mr. Slagg pointed out, whether or not it will secure them cheaper tariffs for the conveyance of their merchandise to and from the sea. The railway communication is ample, but railway charges are nevertheless excessive; and one reason why Manchester is not relieved from these exorbitant charges by a competing water traffic is that the existing canal system is almost entirely in the hands of the railway companies. What is wanted is a ship-canal which no railway company will be able to monopolise. To the objection that as soon as the proposed canal is constructed the railway companies will lower their rates, Mr. Jacob Bright very properly answers "there is no stronger argument than this for the commencement of the project." Mr. Bright believes that "this great scheme, which has been the dream of generations, is going to be realised in our time;" and Mr. Slagg says that if the estimates which have been prepared really represent the facts and the prospects of the case, there should be no misgiving about supporting the scheme. There was certainly no misgiving about it at the meeting last night, which was of a remarkably enthusiastic character. We may rest assured that if the Manchester people make up their minds that a thing must be done it will be done. There seems to be every reason to believe, therefore, that this enterprise of great pith and moment will not lose the name of action.

CAPITAL AND LABOUR.

AS the revolts of labour are generally carried on against odds, and consequently end as a rule in defeat, it is much to be wondered at that workmen do not seriously agitate for the establishment of courts of arbitration for the settlement of those disputes which must necessarily arise so long as masters and men are human. Nobody denies the great advantages which the labourers have gained by the substitution of unionism for the paternal system; though the former by encouraging strikes has instituted at least one drawback from which the latter was free. That strikes interfere disastrously with the development of the resources of labour is evident from the fact that even when successful they involve a dead loss to wages. When, however, they are not successful, as generally happens, the consequences are calamitous. Take, for instance, the great strike of ship joiners on the Clyde, which has just terminated. After being idle for twelve weeks the men have gone back to work on the masters terms. Thus, no good whatever has resulted from the revolt, notwithstanding that it has cost altogether no less a sum than a hundred thousand pounds. Of this amount the men lose twenty-five thousand and the masters seventy-five thousand. It is a poor consolation for the workmen to know that their own direct loss has only been a third of the amount which their employers have been compelled to sacrifice. Indirectly the men will lose quite as much as the masters, for it follows that if the latter, being poorer by seventy-five thousand pounds than they were before the strike commenced, will have that amount the less to spare for wages.

The loss sustained by the masters has been incurred in penalties which they have been called upon to pay for delay in the execution of contracts. The strike, unfortunately, has manifested one of the worst characteristics of the British workman, namely, disrespect for the principle of liberty of labour. A few days previous to the termination of the strike a violent attack was made upon a body of other workmen who had been engaged by the masters. For one body of workmen to deny to another the right to labour is suggestive of a dangerous violation of personal freedom. Thus strikes involve not only ruinous loss but foster intolerable despotism. For men to sacrifice twenty-five thousand pounds in carrying one out appears to us to be little short of madness. The fact, however, that masters and men on the Clyde can together afford to spend a hundred thousand pounds over a quarrel proves that the ship building industry is not a bad business.

THE LAW CONCERNING INFANTS.

INFANTS, married women, and idiots, are often grimly classed together in legal text-books as being classes under certain disabilities with regard to contracts. As to married women, the new Act pretty well puts an end to their disabilities, though in so doing it will raise endless complex and confusing questions for future decision. Idiots, of course, as victims of misfortune must always remain incapable of making valid contracts, but with regard to infants, as a class, we think the time has come when the legal position, at all events as regards their creditors, needs reconsidering and amending. No one would ever urge that children should be made liable for civil acts; but when young men just under age contract liabilities and then plead the protection of the law on the ground of their infancy, it is obvious that this is a very different matter. Unfortunately, by the Infants' Relief Act, 1874, which was really passed to protect patrician minors from the money-lenders, and to prevent expectant heirs from squandering their inheritance. Every contract made by an infant is void, unless it be for necessities, and there can be no ratification of such a contract by an infant after he reaches full age. The effect of this statute has been still further to protect infants who do not really deserve such protection; for it has prevented even traders who are under age from being held liable upon their business contracts, while it has brought about the absurdity that though such an infant trader can present his own petition for liquidation or composition he cannot be made bankrupt by his creditors. If, however, a minor falsely pretends he is of age and gets goods in consequence he could be criminally prosecuted.

But infants are still liable for "necessaries," and then the question comes what articles are within the meaning of that word. The statute does not attempt to give any definition, and probably this would be impossible, so that its scope has to be gathered from a long series of conflicting legal authorities. As an example of the way in which the existing law sometimes works we may refer to a recent case in the Mayor's Court, Ward v. Collier, where the result was hardly satisfactory to the plaintiff and is not encouraging to other creditors in the like position. The plaintiff was a tailor, and he sued the defendant for the price of two suits of clothes supplied to that gentleman within a month of his coming of age. The only answer to this claim was the plea of infancy, and upon that plea the case was solemnly fought out before a judge and jury. The infant's mother gave conclusive evidence as to his minority, and so the only question was whether the two suits of clothes came within the legal definition of "necessaries." Certainly some sort of clothes are necessary; and what sort has generally to be decided by the social status of the infant in question. In this case he was a kind of gentleman at ease, and lived with his father and mother at Notting-hill. As the judge said he had probably ordered the two suits that he might make a show on achieving his majority, or as the creditor doubtless thinks, that he might at least start with two suits purchased before the time when he would be legally liable to pay for them. After a deal of legal argument and much need-

less advocacy had been wasted upon the case the Recorder hit upon the brilliant notion of giving the plaintiff a verdict for one suit, hoping thereby to satisfy both parties. In short, sitting as a judge, he held that one suit of clothes was necessary for an infant, but two were not, and so the case ended.

It will occur to most men of business as strange that this point should have been decided by the judge alone, while the jury looked on and had nothing to say. But such is the law as laid down by the recent leading authority of "Ryder v. Wombell," or rather as it is generally deduced from that confusing judgment. For what was actually held in that case was that evidence as to certain articles being necessary should not be left to the jury, unless it is such as that in which they can reasonably find in the affirmative. There the goods sold to the infant, who was the son of a baronet comprised an antique goblet at £15, and a pair of jewelled solitaires costing £25. Whether or not these were necessary to the defendant, considering his social status and income of £500 a-year, was the question left by the judge to the jury, who answered in the affirmative, and found for the plaintiff. Upon appeal, the Exchequer decided that the verdict must be reduced by the price of the goblet, for that should not have been left to the jury, but should have been decided negatively by the judge himself. In effect they swallowed the solitaires and strained at the goblet; though it is not clear why such an infant should not make a present of this kind if he is to be allowed to wear costly jewellery. But in the recent case the Recorder by some means or another persuaded himself that there was nothing to leave to the jury; although it can hardly be denied that they would be better judges of what was necessary than he could be, and that the meaning of the authority quoted was clearly that such a question of fact was one upon which the verdict of a jury should be taken. He did this probably because the Court of Appeal in "Ryder v. Wombell," decided that the Exchequer Chamber was wrong, and that neither were necessities.

Seeing, then, that whether or not an article is "necessary" for an infant is now decided to be a question for the judge and not for the jury it behoves all creditors to be careful in dealing with infants. But it is hard to see how they are to act in these cases without running some risk, as it is as impossible to ask a young man for his certificate of birth as it is to call upon a lady to produce her husband's authority to pledge his credit. It may be taken as a general rule that judges are quite as uncertain as juries in the decisions they will give, and thus parties have always an even chance. But all the same, it would, we think, be much better if all questions of fact were left to juries, instead of being confused, as they are now, with points about the judge's direction. It would, we should think, be possible to lay down at least some sort of guiding definition of the meaning of "necessaries" as applied to infants. But until this is done we must do the best we can to understand the matter. It may be taken as a rule clothes of all kinds are necessities; of course, with some regard to the infant's social status and income. It is also clear that clothes for an infant's wife would be necessary, and for his children, of course, under the same restrictions. We must again repeat that if a trader be induced by the false representations of an infant to trust him with goods, the shortest and simplest remedy is by way of a criminal proceeding. There is, indeed, no other way, for such a representation would not, since the Act of 1874, make him civilly liable. Neither can an infant ratify his contract after becoming of full age as he could before that statute. In short, infants have at present got the best of it, and until the law is amended creditors must be cautious.

THE forthcoming International Electric and Gas Exhibition at the Crystal Palace has increased in dimensions and importance to such an extent, and the preparations for the exhibits involve so much extra work, that the opening is unavoidably postponed for a week or two, in order that due justice may be done to a collection of gas and electric apparatus and accessories which bids fair to be of unprecedented interest.

DESCRIPTIONS OF RECENT INVENTIONS.

IMPROVEMENTS IN KNIFE CLEANERS.

A knife-cleaning apparatus is described, consisting of a set of tablets which may be of either metal or wood covered with leather or other suitable buffing material. The set of tablets are hinged together at the back, the upper one being extended to form a handle by which the apparatus may be firmly held down whilst being used. The knife is inserted at the side, between the tablets, and drawn backwards and forwards, brick-dust and water having previously been applied to the leather. Springs are inserted at the front corners of the tablets to prevent their being pressed too closely together. The apparatus is placed in a tray which serves as a dust receiver, and which is fitted with divisions for holding water and the polishing powder. The inventor is Mr. H. Beach, London, E.C., E. Ferguson, Westminster, S.W., and Ontario, Canada.

IMPROVEMENTS IN BOILERS FOR HEATING GREENHOUSES.

The class of boiler referred to is the horticultural saddle-boiler, and the invention consists substantially in making this kind of boiler in two separate parts. The contiguous faces of the two parts are made so as to fit closely, and not to permit the escape of the products of combustion. To increase the heating-surface it is proposed to make the internal shell of the boiler or the sides of the fire-box corrugated, and also to make the boiler with flues, which may also be corrugated, passing through the crown and over the fire-box. It is also proposed to add terminal water-way ends, divided into two parts, each of which could be in communication with one of the two sections of the boiler. The inventor is Mr. C. Hulseberg, Finsbury.

IMPROVEMENTS IN THE MANUFACTURE OF STEEL.

The object is to dispense with the necessity for reheating a steel ingot after being cast in order to bring it to a sufficient and even heat preparatory to being rolled. The method adopted for accomplishing this is briefly as follows:—The ingot being "stripped" is transferred with the least possible delay to what the inventor terms a soaking pit, constructed of suitable refractory material, and arranged by preference in the floor of the casting shop. The ingot is placed upright in the pit, the top of which is covered over with refractory material, and the air excluded as much as possible. The ingot is allowed to remain a certain time, during which the interior excessive heat, and any additional heat rendered sensible during complete solidification of the ingot, but which was latent at the time of placing the ingot in the soaking-pit, becomes distributed uniformly, or nearly so, throughout the whole mass of metal, which is then in a suitable condition for being rolled into a bloom, or even into a finished rail or bar without requiring to be reheated. The inventor is Mr. J. Gjers, Middlesbrough-on-Tees.

IMPROVEMENTS IN KNITTING MACHINES.

The name of Lamb has long been connected with knitting machines. Lamb's have long furnished the material upon which the knitting machine may work, and a gentleman named Lamb has furnished many knitting machines to operate upon the wool of his fleecy and four-footed namesakes. Now comes Mr. Isaac W. Lamb, of Parshallville, Mich., who has just patented divers improvements upon the knitting machine, whereby it may do its work more neatly and economically. The improvements consist of devices for moving the needles in and out of the path of the cam, so as to increase the range of work and avoid the risk of injury to the needles. The needle beds are constructed in sections, providing grooves of sufficient depth to receive the needle shifters and suitable devices for controlling and operating them, thereby adapting any machine to have needle shifters, and their corresponding advantages.

NOTES ON NOVELTIES.

THE "METALLICON."

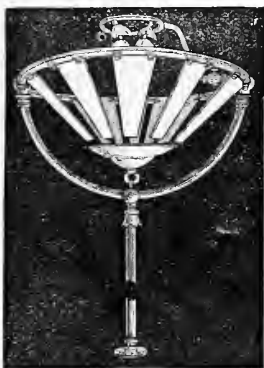
A wonderful contrast to the clumsy creaky concerns that children were wheeled about in a few years ago are the perambulators and infant carriages of the present day. One of the best of these is the "Metallicon." The shape of this perambulator affords much room and convenience, and will allow its little occupant to be laid at full length. Its sides are constructed of fancy iron in imitation



of cane work, hence the name "Metallicon." For the support of the child's back it has a sliding seat and it is also fitted with a hood to protect its occupant from wet. The workmanship is of the best description, while the finish throughout is good. The patentee is Mr. Leveson, of 90, New Oxford-street, London, Manchester, Liverpool and Leeds.

THE "EDINBURGH" SHADOWLESS SUNLIGHT.

This is a most effective and economical pendant for lighting shops, offices, halls, schools, &c. As its name denotes it gives a good brilliant light without shadow. It can be had with opal

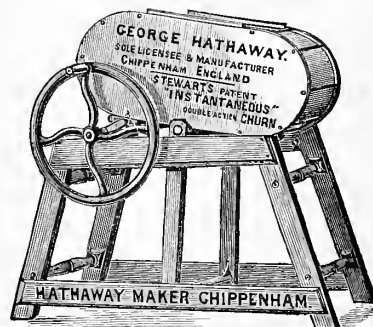


reflectors, or silvered glass reflectors, as desired. The inventors are Messrs. Milne, Sons and Macfie, gas engineers, King Edward-street, Newgate-street, E.C.

THE "INSTANTANEOUS" CHURN.

Mr. George Hathaway, of Chippenham, has brought out a new churn which obtained the silver medal at the Royal Agricultural Society of England, when they met at Reading in the earlier part of this year. The "Instantaneous" Churn will produce butter at any season of the year, hard and firm, in less than ten minutes. This Churn, has no beaters, dashers, floats, or paddles to injure the grain of the butter, and no iron, brass, or other metal to come in contact with the cream. It is strong and durable. From the strength and simplicity of its construction the churn can be cleaned

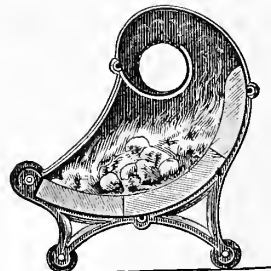
very quickly, and is easily taken care of, and having no dashers, floats, or paddles it does not destroy the grain or texture of the butter. It brings butter by concussion and not by friction, the particles of cream coming in contact with each other only. It in-



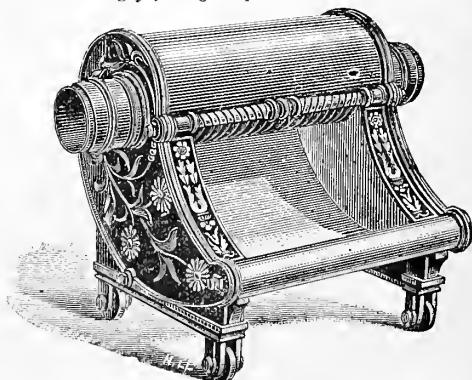
roduces more air than any other churn and is especially adapted for making granulated butter. The butter can be washed and salted or brined in the churn, producing a splendid colour and high quality, the butter coming in beautiful granules, the most desirable form for washing with cold water or brine.

THE NAUTILUS GRATE.

Since being exhibited at the Kensington Smoke Abatement Exhibition, the Nautilus grate has undergone several improvements, the result being that it is now as perfect as it is possible to make

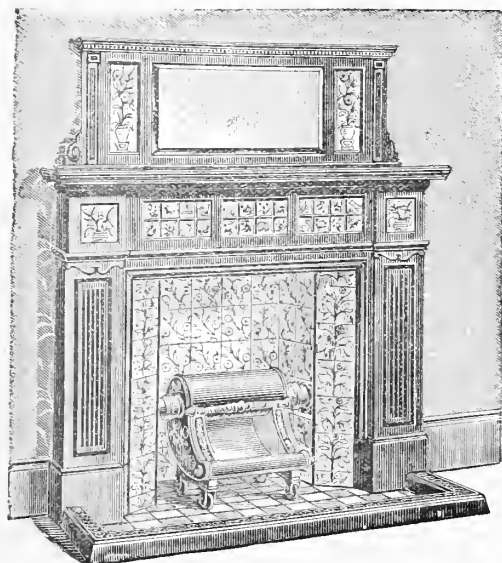


it. It will be seen by our illustrations that the Nautilus grate is by no means unelegant, being shaped like a nautilus shell after



which it is named. In this grate the products of combustion instead of going direct into an open chimney pass into the centre of

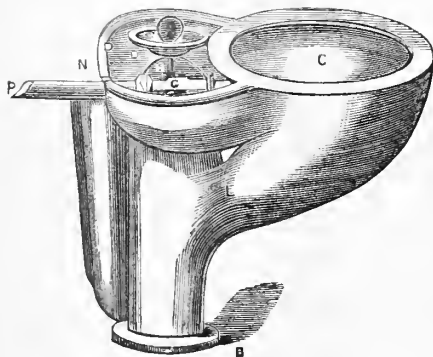
the hood or shell and then out right or left in a flue formed behind each of the splayed sides of the fire-place. The wings connecting the grate with the side flues are telescopic, enabling it to be drawn out from the hearth by means of rollers fixed on legs. The centre or axis can thus be cleaned as well as the side flues. The burning fuel does not come in contact with the metal as the interior of the grate is lined with fire-brick. As the grate has a solid bottom no cinders or ashes fall to the ground, nor do the ashes or cinders fall out as the front lip of the stove is higher than the fire. In the



summertime the grate can be entirely removed and the recess decorated with plants or ornamented as the householder may desire. The "Nautilus" ensures perfect and economical consumption of fuel, and it gives its heat to the room and not to the chimney, and while presenting the appearance of an open stove, it has the quick draught of a closed up range. We should think its manufacturer, Mr. James B. Petter, of Yeovil, will experience a large and gradually increasing demand for his elegant and useful invention. The toned supplement to this month's issue illustrates two of the many patterns in which this grate is made.

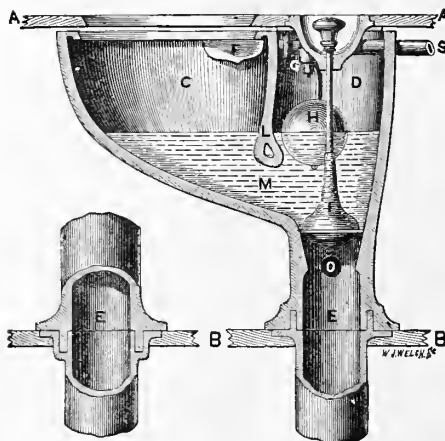
THE TWIN BASIN WATER CLOSET.

One of the most important features in any water-closet should certainly be the protection it affords against foul air from the sewer.



The "Twin Basin" has this important feature and many others

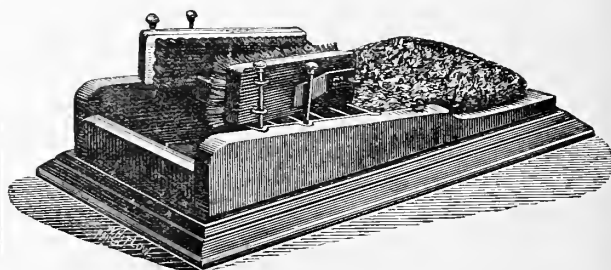
worthy of notice. It is made in one piece of pure white earthenware; it is simple in construction and is worked without wires, cranks, flypan or the foul container, which are always a source of nuisance or danger. Being without all this complicated mechanism it is less liable to get out of order. These cleanly water-closets are



now in use at many of the largest hospitals, hotels and railways in the United Kingdom. The manufacturers, Messrs. Copper, Son and Co., of Ingram-court, Fenchurch-street, have numerous testimonials from such gentlemen as the surveyor of Guy's Hospital and other leading sanitary authorities.

A COMBINED BOOT CLEANER AND DOOR MAT.

The illustration below will give the reader a pretty correct idea of this invention. The machine removes the dirt most effectually



from the sides of the boot without it being necessary to twist or wring the foot about as one has to do on the ordinary door mat. Mr. Stack, of Manchester, is the inventor of this machine.

A NEW BOOK.

A writer who thoroughly understands the subjects he writes upon is Mr. Alexander Hay Jupp. His valuable book "Industrial Curiosities," (T. Fisher Unwin,) which he calls glances here and there in world of labour is now republished in a cheaper form. It contains an account of the manufacture of leather, which shows that the writer must have visited personally the various factories he describes. There is an interesting account of the sewing machine, while a chapter on needles, on locks and safes, on wool, and on hops, are well worth reading. Most people are so ignorant of how the many things around us are made that we are sure few would rise from the perusal of "Industrial Curiosities" without having gained much valuable information.

A WAX THREAD SEWING MACHINE.

Mr. D. H. Campbell, of Pawtucket, Rhode Island, has patented through M. H. H. Lake a valuable wax thread sewing machine. It consists in the combination of the following parts, viz., a hook needle, thread delivering and controlling mechanism, a curved shuttle and an arched shuttle race, an arched work plate, convex laterally and longitudinally, the shuttle being beneath the work plate; the arched shuttle race supports the shuttle in its course, and a shuttle driver is mounted on a rocking shaft below the centre of the race. The shuttle has a longitudinally recessed web or grove on its upper side, and the race plate is grooved on its under side for co-operating with the shuttle to cause the slack shuttle thread to occupy the recess in the top of the shuttle during its backward movement. The shuttle is provided with upper bearings composed of cork or similar yielding material, a longitudinal thread recess extending from nose to heel on its upper side, with a thread delivery aperture near the nose of the shuttle, and a spring or bearing upon the thread within the recess. A segmental plate, forms an arched shuttle rail, and bearings for a needle-bar with its operating rocking shaft, and an arm or lever thereon, a bearing disc being fitted on the awl-bar, and slotted to receive the said arm. A presser-foot is lifted during the forward movement of a slide, and the awl, actuated by the mechanism, is bodily lifted during the entire forward movement of the slide; a feeding motion is involved by aid of the awl or needle; the feed slide has a vibrating mechanism, coupling mechanism to be made whilst the slide is in operation, connecting the slide to its vibrating mechanism, and feed controlling mechanism, which enables a variable adjustment of the coupling mechanism to be made whilst the slide is in operation, a feed graduating lever for varying the position of the said coupling mechanism, whether the feed slide is in motion or at rest, an inclined slot, and coupling blocks capable of a sliding movement, any means for adjusting the said blocks, for varying the vibrations of the feed side while in operation. The mechanism for varying the vibrations is fitted with a graduated scale, a lever moves the coupling blocks in their slots, and a locking device maintains the lever in any desired position. The take-up mechanism includes a pulley over which the thread passes just prior to approaching the needle, and an inclined thread tube occupies a direct line from the periphery of the said pulley to the path of the needle; a thread eye carries the thread across the path of the needle and above the presser-foot, and a thread-arm vibrates in the arc of a circle wholly at one side of the presser foot and the path of the needle, whereby the space above the presser foot, less that required by the thread-eye, is rendered available for the complete elevation of the presser foot. The operating mechanism for the arm and the eye causes the latter to first carry and deliver the thread to the arm, and hence deliver the thread to the needle, and also causes the arm to merely retain and release the thread deliver to it by the eye, whereby the said arm is prevented from abrading the thread. The thread-eye is provided with a lever and reciprocating slide, and a stationary slotted plate, whereby the path traversed by the eye toward and from the needle is laid in a straight line, and in a curved line in delivering the thread thereto, a thread measuring arm is variably adjusted for measuring off the thread by the vertical movement of the presser-foot; this thread arm is pivoted upon an axis varied in its location by raising or lowering the presser-foot; the presser-foot is provided with a rounded projection on its bar, and the thread arm, is rotatively mounted on a lever, on which is a vertically inclined lug or web; a spring maintains the surface of the inclined lug in contact with the projection on the presser-bar, whereby the position of the said thread-arm is varied by the vertical adjustment of the presser-foot; the presser-foot controls the position of the axis of the thread arm; a reciprocating rod is employed, and a bell-crank lever and link connect the said rod with the thread arm. The lifting finger of the vibrating lever, which lifts the presser-foot during the feeding operation, has an adjustable seat; the wax-thread shuttle has one or more heating burners near the lower ends of the race for heating the shuttle

and its contents, and thus remotely located from the parts to be heated, intermediate metallic connections conducting heat from the burners to the said parts; a heating rod or plate is connected with the thread tube at one end, and exposed to the flame of the burner at its opposite end. A main wax cup is employed, and an auxiliary wax cup is connected with the main cup, and located between the take up mechanism and the work plate, and in the straight path of the thread, whereby the thread enters and leaves the auxiliary cup in a direct line. The wax cup is tubular, and is traversed longitudinally by the thread on its way to the work plate, and is provided at top and bottom with perforated plugs, whereby the wax is enclosed and guarded against injurious exposure. The wax-thread shuttle has a thread chamber, and an aperture provided with packing for stripping the surplus wax from the thread as it leaves the shuttle.

FLAX THREAD.

The growth of the thread manufacture in the United States has been sufficiently extensive to be worthy of congratulatory mention. Our readers have for some years been familiar with the works in New Jersey. Now we invite their attention to the mills more recently erected at Grafton, Mass., by Messrs. Finlayson, Bousfield and Co., of Johnstone, Scotland, gentlemen who have had large experience and success in the production of this delicate fabric. They occupy immense premises at home, where, by the addition of new machinery they have largely increased their production of late. They are doing the same thing at Grafton, supplying apparatuses which enhance their facilities very much and provide against any failure in the supply of water. The quantity of linen thread used by the manufacturers of this country is so vast as to be almost beyond computation, and the business must, in the nature of things, be constantly increasing, as it is an article for which it is very unlikely that any substitute will ever be found.

Messrs. J. R. Leeson and Co., of Boston, are the agents for the sale of the threads made by Messrs. Finlayson, Bousfield and Co., both in Johnstone and in Grafton. They furnish all the varieties required by the artisans of our trade. The threads they deal in have withstood every tension to which they have been subjected, to prove their strength and durability. These gentlemen deserve the good will of the shoe making fraternity for helping to accommodate them with a material, on the quality of which they depend so largely for the acceptability of the goods they manufacture.

GILDING LEATHER.—Damp the skin with a sponge and water, and strain it tight with tacks on a board sufficiently large. When dry, size it with clear double size; then beat the whites of eggs with a wisp to a foam, and let them stand to settle; next take books of leaf silver and blow out the leaves on a gilder's cushion; pass over the leather carefully with the egg size, and with a tip brush lay on the silver, closing any blister that may be left with a bunch of cotton. When dry, varnish over the silvered surface with yellow lacquer, until it has assumed a fine gold colour. The skin being thus gilded, may be cut into suitable strips or patterns. It should be carefully observed to have the skin well dry before sizing it. Bookbinders gild the edges, &c., of leather in a different way. They first go over the part intended to be gilded with a sponge dipped in the glair of eggs (the whites beaten up to a froth and left to settle); then being provided with a brass roller on the edge of which the pattern is engraved, and fixed as a wheel in a handle, they place it before the fire till heated, so that, by applying a wetted finger, it will just hiss. While the roller is heating, they rub the part where the pattern is intended to come, with an oiled rag or clean tallow, and lay strips of gold leaf on it, pressing it down with cotton; then with a steady hand they run the roller along the edge of the leather, and wipe the superfluous gold off with an oiled rag, and the gold adheres in those parts where the impression of the roller has been made, while the rest will rub off with an oiled rag.

THE VENTILATION OF THE COUNCIL CHAMBER IN GUILDHALL.

Sometime ago the defective state of the ventilation of the chamber led to Messrs. Boyle and Son being requested by the City Architect, acting under the direction of the Corporation, to submit a scheme for the efficient ventilation of the chamber, but with the condition attaching thereto, that it would be "no cure, no pay." Messrs. Boyle and Son, having every confidence in their system, agreed to these terms and their plan was adopted. The system now in use at the Guildhall has been seen by many experts in warming and ventilating apparatus, and in every case approved, even by rival sanitary engineers. For the extraction of the vitiated air nine of Messrs. Boyle's patent self-acting air-pump ventilators are fixed on the top of iron shafts standing at various heights above the roof to clear the ventilators of obstruction. Four of these shafts, two at each end of the chamber, are 13 in. in diameter, branching off a little above the ceiling into two 10 in. pipes communicating with openings in the ceilings 2 ft. in diameter, connected by means of ornamental centre flowers. On the top of each of these shafts is fixed a 2 ft. air-pump ventilator. At the east end of the chamber a shaft 18 in. in diameter penetrates through the roof, having a 30 in. ventilator on the top and expanding at the bottom to 2 ft. 6 in. by 2 ft. 3 in., covering an opening of same dimensions in centre of ceiling. At the west end of the chamber a large shaft, 30½ in. by 20½ in. is carried a considerable height to the top of an adjoining building, surmounted with a 3 ft. ventilator and terminating over an opening in the ceiling. A shaft 16 in. diameter, connected with the large chandelier suspended from the lantern over the dome of the chamber, is also run into this shaft, the ventilation of the body of the chamber being partly effected by this means. On the top of the outer casing of the lantern three 13 in. shafts are fixed at equal distances from each other, capped with 20 in. ventilators; these shafts communicate with openings in the under portions of the lantern by means of expanding iron hoppers, and complete the arrangements for the extraction of the vitiated air from the centre of the chamber. A portion of these shafts formed part of the old system of ventilation, and were previously surmounted with revolving cowl.

For the supply of fresh air Messrs. Boyle, with certain alterations have utilized the arrangements which already existed. On the south side of the chamber four vertical air tubes, or brackets, are fixed against the wall, two 2 ft. by 2½ in. by 3 ft.; the other two placed a little higher up in the wall being 18 in. by 4 in. by 2 ft. These tubes communicate with holes cut through the walls, 2 ft. by 8 in. finished with cast iron gratings. These air inlets are all fitted with Messrs. Boyle's patent heaters for warming the supply of air to any temperature required as it passes into the building. The north wall is similarly treated to the south, with the exception of having an extra tube at the end where the Lord Mayor sits. At the public end of the chamber three inlet tubes are fixed, one at each side and one in the centre, also fitted with the air warming arrangement. An abundant supply of air is admitted through these tubes, and the tests showed that the air could be warmed in cold weather to a temperature of from 60 deg. to 120 deg., thus entirely preventing cold draughts.

Messrs. Boyle and Son's experiments have been going on since January last and they have been eminently successful.

PROFESSOR AYRTON, one of the foremost of the electricians who seen engaged in revolutionising the world, might have been seen engaged one day last week passing through the City streets on a tricycle propelled entirely by electricity. There is no reason now why cabs, omnibuses, tram-cars, and every other known vehicle should not be sent along by the same force. We may then be able to keep our carriages literally, for we should want no horses, and a box of electricity with a little motor engine would cost much less than the wages of a coachman.

RECIPES.

To prevent iron or steel from rusting, warm the iron or steel till you cannot bear the heat on your hands, then rub it with new and clean white wax.

A PASTE for cleaning metals take oxalic acid 1 part; rotten stone 6 parts; mix with equal parts of train oil and spirits of turpentine to a paste; put it up in a covered can. It is applied with a woollen cloth and with plenty of elbow grease. It is used more for finishing up bright work.

To remove deep rust use benzine, and polish off with fine emery, or use tripoli 2 parts; powdered sulphur 1 part; apply with soft leather. Emery and oil is also very good.

THERE are many methods of hardening steel; but one of the readiest is to take two teaspoonsful of flour and one of salt. The steel must be heated enough to coat it with the paste by immersing it in the composition; after which it should be heated to a cherry red and plunged into soft water. If properly done the steel will come out with a beautiful white surface. Stubbs' files are said to be hardened in this manner.

IRON and steel goods of all description are kept free from rust in the following manner: Dissolve ½ oz. of camphor in 1 lb. of hog's lard, take off the scum, and mix as much black lead as will give the mixture an iron colour. Iron and steel goods, as well as machinery of all kinds, rubbed with a linen cloth, will keep clean for months. If the machinery is for exportation it should be thickly coated with this prior to the voyage.

A WELDING powder, called antimonoid, has been in use for some time past in Europe, and is said to be very efficacious. It consists of four parts of iron turnings, three parts of borax, two parts of borate of iron, and one of water.

IRON or steel immersed in a solution of carbonate of potash or soda for a few minutes will not rust for years, not even where exposed to a damp atmosphere.

To remove bolts without breaking them the most effectual remedy known is the liberal application of petroleum. Care must be taken that the rusted parts are reached by it, and some time must be allowed to give it a chance to soften the layer of rust before any attempts are made to remove the bolt.

ONE of the best ways to prepare a bath for nickel plating is to dissolve chloride of nickel and ammonia in pure water in the proportion of about four ounces of salt to the gallon. The surface should be polished beforehand if smoothness is requisite.

THE NEW METAL EXCHANGE.

The Metal Market and Exchange Company (Limited) have now a handsome and commodious building for the transaction of business in Whittington-avenue, leading from Leadenhall-street to the new Poultry Market. The building, which was erected by and is the property of Mr. Thomas Boyce, is of a substantial character. The centre of the ground floor, the exchange proper, is exceedingly well lit, and is spacious, its dimensions being sixty feet by thirty-eight. There are committee, telegraph, reading, and other rooms. The upper part of the building is arranged as offices, which are occupied by members of the trade. Altogether the great metal interests are worthily housed here, and when the adjoining buildings are completed the avenue will present quite an imposing appearance. Mr. E. Harradine is secretary of the company.

"Pa," said a lad to his father, "I have often read of people poor but honest. Why don't they sometimes say rich but honest?" "Tut, tut, my son, Nobody would believe them," answered the father.



LIQUIDATIONS BY ARRANGEMENT.

Tindall, A. W., Faversham, ironmonger.
 Cook, E., metallic bedstead manufacturer.
 Mathew, H., Nelson-in-Marsden, ironmonger.
 Thomas, W. D., Platt, T., and Smith, A. C., Bartholomew-close, London, iron merchants.
 Fisher, F. W., Queen Victoria-street, London, ironmonger.
 Pickering, S. P., Wednesfield, lock manufacturer.
 Cooper, H., Walsall, locksmith.
 Dwyer, M., Cardiff, hardwareman.
 Kearton, J., Stockport, ironmonger.
 Spicer, W., Walsall, ironfounder.
 Walker, W., Sheffield.
 Wood, J. B., Kidderminster, ironmonger.

PARTNERSHIPS DISSOLVED.

Dounton, J., and Co., London, brassfounders.
 Mostyn, Myre and Co., London, iron and metal merchants.
 Armstrong, W., and Blumer, W. G., West Hartlepool, ironmonger.
 Buck, C. A., and Joens, A. T., Badlock, ironmongers.
 Gittings and Tolley, Bilston, ironmongers.
 Jones, J. V., and Mitchell, W., Saltby, Birmingham, brassfounders.
 Pegg and Son, Leicester, ironfounders.
 Waters, A., and A. G. Arnold, Newport, ironmonger.
 Wright, F. B., Wright, F., and Jessop Buttersley, ironmasters.
 Silvester, J., and Scansbury, F. C. B., Newcastle-under-Lyne, ironfounders.

BANKRUPT.

Bamwell, W., Ardwick, near Manchester, iron manufacturer.

BILLS OF SALE.

Kite, E., trading as E. Kite and Co., auctioneer and dealer in sewing machines, &c., 89, Renshaw-street, Liverpool, for £60, to W. Edwards. Filed October 25.
 Whyte, J., perambulator manufacturer, 160, Cornbrook-street, Moss Side, Manchester, for £100, to J. Hubbert. Filed November 10.
 Dixon, C., ironmonger, &c., 162, Sulton-road, Commercial-road, Landport, for £136 14s., to W. Smith. Filed October 31.
 Peckman, J. and J. A., brassfounders, 66, Herbert-road, Small Heath, 109, Floodgate-street, Birmingham, for £30, to J. Blalberg. Filed October 31.
 Hetherington, J. G., ironmonger, 87, Albert-road, Middlesborough, for £11 10s., to Wright Proud and Co. Filed October 26.
 Underwood, T., ironmonger, 62, King-street, and Broad-street, Blenhavon, Northmouthshire, for £54, to A. J. Jacobs. Filed October 28.

LIQUIDATION AND BANKRUPTCY NOTES.

RE C. J. PIERCE.—The debtor, trading as an iron merchant at 177, Upper Thames-street, has filed a petition for liquidation, and Mr. F. R. Hales applied for the appointment of Mr. F. J. T. Moore, accountant, 98, Cannon-street, as receiver of the estate, also for an injunction restraining an action at the suit of Messrs. T. and W. Bradley, of Newark-on-Trent, for the recovery of £93 5s. 3d. The liabilities were about £1,700, and the assets consisted of stock and book debts estimated at £200, together with the value of the business as a going concern. Mr. Registrar Brougham made the appointment and granted an injunction until after the first meeting, to be held on Friday, December 15th, at three o'clock, at St. Michael's Hall, George-yard, Lombard-street.

RE J. H. W. VOWLER.—The adjudication in this case was made in October, 1880, the bankrupt being then described as of the River Lea Ironworks, Canning Town, and of 57, Gracechurch-street, iron manufacturer, carrying on business in his own name and under the style of the Canning Town Iron Company. The trustee (Mr. E. F. Mutter) applied for an order closing the bankruptcy. The liabilities were £21,178, and the trustee reported that the assets had realized £4,178 17s. 10d., and that a dividend of 2s. in the pound had been paid to the creditors. There was no objection, and Mr. Registrar Pepys ordered the bankruptcy to be closed.

RE F. W. FISHER.—The debtor, carrying on the business of an ironmonger at 172, Queen Victoria-street, has presented a petition for liquidation, and Mr. G. A. Vennell applied to the Court for the appointment of Mr. H. C. Purkis, of 105, Cambridge-gardens, Notting-hill, as receiver of the estate; also for an injunction restraining an action at the suit of Messrs. G. and W. Purser, of Birmingham, for the recovery of £23 8s. 11d. The liabilities were estimated at £3,500, and the assets consisted of stock, fixtures, and furniture of the value of £600, and book debts £150. Mr. Registrar Pepys made the appointment, and granted an injunction until after the first meeting, to be held on Tuesday, 21st inst., at two o'clock, at the Birkbeck Institution, Southampton-buildings. Mr. A. Leslie Antile, 17, Ironmonger-lane, is solicitor in the case.

RE E. N. PHILLIPS.—This was a meeting for public examination under the bankruptcy of Edward Nemes Phillips, of 15, Leadenhall-street, and also of Aelybryn, Llanelly, metal agent and merchant. The adjudication was made on August 5th, and the bankrupt filed accounts disclosing liabilities to the extent of £29,644 4s. 2d., and debts fully secured £8,306 8s. 4d.; against assets £1,973 16s 11d., including book debts £1,382 11s. 5d. Mr. Yate Lee appeared for the trustee, and asked for an adjournment with a view to further investigation at a private sitting. Mr. F. Knight on behalf of the bankrupt, opposed any adjournment. The bankrupt was shortly examined, and stated that he was indebted to Messrs. Flux and Co., solicitors, for costs incurred in relation to liquidation proceedings. Those proceedings fell through, and were followed by the bankruptcy. He held five shares in the Metal Exchange Company (Limited) of the value of £60, but never had the scrip for them. Mr. Registrar Hazlitt said that he saw no necessity for adjourning the meeting, and allowed the bankrupt to pass his examination.

RE THOMAS PLATT AND SMITH.—The debtors were described as of Aldersgate-street, Bartholomew-close, and Goswell-road, iron and hardware merchants and ironmongers, Mr. Thomas, also carrying on a separate business as an ironmonger at Saxmundham, Suffolk, under the firm of Thomas and Wells. They have petitioned for the liquidation of their affairs, and Mr. Brown applied for the appointment of Mr. Henry Bourn, of Paternoster-row, as receiver and manager of the estate, also for an injunction restraining several actions. The joint liabilities were estimated at £24,000; separate debts of Thomas, £4,250; ditto of Platt, £500; ditto of Smith, £2,400. The joint assets were stated to consist of stock, machinery plant, book debts, furniture, and effects, of the value of £9,000 or thereabouts, in addition to the goodwill of the businesses. The separate assets of Thomas in his business at Saxmundham were valued at about £3,000, besides the goodwill; and the other debtors also had separate assets comprising furniture and effects. In order to carry on the business an outlay of about £150 per week was necessary, and the application for the appointment of Mr. Bourn as receiver and manager was supported by creditors. Mr. Registrar Hazlitt made the appointment, and granted an injunction until after the first meeting, to be held on Wednesday, the 29th November, at three o'clock, at the Cannon-street Hotel. Mr. Charles Smith, 22, Great St. Helen's, is the solicitor in the case.



WHITE SEWING MACHINE COMPANY V. MOTTON.—The plaintiff Company, whose premises are in Queen Victoria-street, sued the defendant, Mr. Jonathan Motton, at the City of London Court, for £6 10s., being the value of a machine supplied. Proof of the order having been given, a question arose between the plaintiffs' manager (Mr. Johns) and Mr. Walter Beard, solicitor, who appeared for the defendant, as to whom the machine was really supplied. It appeared that the order had been given by a Miss Beverley, who formerly lodged with the defendant, and that she had paid instalments of the purchase money amounting to £2 10s. The machine was now detained for rent overdue to the amount of £8 4s., and the defendant's wife swore that she had not agreed to act as a reference when it was ordered. Mr. Beard: Why do you not give credit for the £2 10s. paid? We require that sum for hire. Mr. Beard: But does that not come off the purchase money? Mr. Johns: If Miss Beverley pays £4 10s. we will accept it and so end the transaction. His Honour: The machine being on the defendant's premises, he is entitled to detain it; but the proper thing for these sewing-machine people to do is to get an undertaking in all cases from the landlord that he will not detain, the same as is done by pianoforte dealers. The case was then adjourned for payment of the balance due.

JONES AND CO., (LIMITED) V. SKINNER AND DOYNE.—This was an action brought by Messrs. Jones and Co., (Limited) against a gentleman named Skinner, residing at Tottenham, and a broker named Doyne, residing at Homerton, before Mr. Commissioner Kerr, at the City of London Court, to recover damages for the wrongful conversion of a sewing machine, the property of the plaintiff company. Mr. T. Noton, solicitor for the plaintiffs, in opening the case, stated that the plaintiffs let a sewing machine on hire to a person named Knight, residing at Mile-end, to enable his wife to obtain a living by making shirts, he being in delicate health and unable to follow his employment constantly. Scarcely had it arrived on the premises before it was seized and immediately removed by the defendant Doyne on behalf of Mr. Skinner, under distraint for rent. Mr. Noton stated that he rested his case on two grounds—first, that the sewing machine was a "tool" and also further, being in actual use at the time of seizure, was privileged from distraint; and secondly, that the warrant of distress was bad in form, and the seizure illegal, and the whole of the defendants' proceedings irregular from beginning to end. The warrant of distress was then put in, and also the hiring agreement for the machine, which was dated subsequently to the date of the warrant of distress. His Honour, after hearing evidence, found a verdict for the plaintiffs for the full amount claimed, with costs.

BOW-STREET.—THE "SPEEDWELL" SEWING MACHINE.—Morris Goldstein was further charged with obtaining various sums of money by means of alleged false pretences in connection with the sale of the "Speedwell" Sewing Machine patented, which was represented to hem, quilt, button-hole, and sew buttons on anything from the finest calico to the thickest of cloth. It was so simple that a child could work it, and it only cost 1s. 2d. Evidence had already been adduced on behalf of the prosecution—which is undertaken by the Treasury—to prove that the article was utterly worthless as a sewing machine. Mr. Metcalfe, on behalf of the defendant, proposed to show that the business was a bona-fide one. An estimate of the sales between January and October had been prepared by Messrs. Salmon, Sandall, and Salmon, accountants, of

30, Poultry, and showed that £1,268 17s. 3d. was realised between the dates mentioned; but after deducting expenses, the profit on the sales was about £250. A young woman named Sarah Boardley, who had been employed in a manufactory to sew buttons on gloves, was called to prove that she had found the machine very useful. She illustrated its use by placing a small piece of linen between the two pieces of tin, and proceeded to sew by passing the needle through the hole like a key-hole. To sew a button on witness placed the button between the tins on to the linen, and sewed it on by pressing the needle through a smaller hole than the one described above.—Sir James Ingham: But you sew; the machine does not sew itself.—Witness proceeded to explain the advantages of the machine, particularly as she "didn't prick her fingers."—Another witness having been called to give similar evidence, Sir James said he thought this was a case for a jury to decide as to whether there had been any fraud or not.

ALLEGED INFRINGEMENT OF PATENT.—Douglas v. Shanks and Co.—In the Scottish Court of Session, Lord Kinnear made an order on the 14th ult., for proof to be taken on Friday, January 12, in an action at the instance of Mr. Chas. D. Douglas, enameller, in Glasgow, against Messrs. Shanks and Co., Tubal Foundry, Barrhead, Renfrewshire, to have them interdicted from infringing letters patent granted to the complainer for the invention of "improvements in the construction of baths," dated August 25, 1881. The improvements specified are—(1) the arrangement and formation of a chamber in baths for the reception of the necessary pipe and fittings, in order to render such pipe and fittings accessible from the interior, for the purposes of fitting, adjusting, renewing, and repairing the same, and preventing the necessity of removing any of the external work for such purposes; and (2) the manner and construction of the accessible valves. The respondents are said to be exposing in their warehouses in Glasgow, Dublin, Manchester, and Birmingham, baths constructed according to the complainer's patent, or only differing by the substitution of mere mechanical equivalent. The respondents explain that they have been engaged in the manufacture of baths for upwards of twenty years; that they have manifested a great interest in improvements, and have taken out a number of patents. They challenge the originality of the complainer's patent, and assert that he was not the true inventor; and, otherwise, that it is not an improvement on arrangements previously known.

LEGAL NOTES.

You should be very careful to ascertain that you have a legal lien upon the goods before you attempt to detain them.

A breach of warranty does not necessarily enable the purchaser to return the article. His remedy is by action for the breach.

No new savings banks can be formed without the approval of the Commissioners for the Reduction of the National Debt.

If a bill of exchange be given to a married woman, her husband may either sue alone, or join his wife.

If a tenant will not vacate after a legal notice to quit has expired, the landlord can cut off access to the water, block up the chimney, and even unroof the house.

No legal process is required for the alteration of a name.

If a bill be taken in satisfaction and discharge of a debt, the debt is for ever extinguished, and the creditor's remedy is upon the bill alone. If the bill be taken merely as collateral security, the debt, of course, is not extinguished.

FOUNDRY NOTES.

Twenty years since core-irons in loam moulds were made very strong, and generally cast in the same manner as plates, sometimes so thick as to cause the cleaner to break the castings in the attempt to get them out; the cleaner could not be blamed for this, as the plates were often found to be one-half thicker than the casting; but no such thing as plates are made for core-irons now-a-days unless in very exceptional cases—when they can come out of the casting without requiring to be broken. All core-irons are now made as gratings, easy to be broken, and cast as lightly as possible compatibly with the power to carry the core without giving signs of yielding. In some foundries the plan of casting or slacking the mould soon after being cast prevails to a large extent. Now we do not believe in the expediency of exposing a red hot casting for this purpose unless under very exceptional circumstances; in fact, we scarcely approve of it at all; for we have known more harm to result from exposing a part or parts of a casting to be eased for contraction than we ever knew to occur when it was left to cool slowly in the mould, assuming the mould to be made for the casting to contract, and the metal good. There are doubtless castings that must be eased, such as large condensers (and the less even they are exposed the better), and large columns or cylinders for bridge work or colliery shafts. These have to be eased because in their case the core may be said to be an iron core, covered with two inches of loam. This iron core is cast in segments, one of which is V-shaped, so as to be easily drawn in, and the rest of the segments follow. A foundry on the Tyne casts two of these in the week, 18ft. in diameter, 7ft. deep, and 12 tons in weight. In this case the casting must be eased, and the iron core with its coating suits the purpose well: but this is a speciality, and arrangements are made to suit it.

Some foundries slacken all their cylinders for marine work or land engines. This we consider to be a great mistake. It is some years since the writer saw the folly of such a practice. He once wrought in a shop where every cylinder had to be turned on its side the day after being cast. The main core was then taken out and the core in the steam-chest partially removed. As the result one cylinder was cast too heavy for the crane to turn it over; it had to cool without being eased, and no harm came of it. We reasoned then, that if a large casting could cool in its mould and no harm take place, so could a small one. Again, what further convinces us of the impolicy of exposing hot castings was this: There came to a shop where we once wrought, a cylinder pattern for a marine engine; no time was to be lost in making it, as it had been previously three times badly made in two different foundries. We learned that it had cracked in each case, although it had been carefully eased on the day following process of casting. It was therefore, decided in our foundry not to ease it at all—give the core irons plenty of clearance, use plenty of loam bricks in the cores, and let the cylinder stand for a week after being cast. The result was a great success. We have acted on that plan ever since, and believe it to be the right one. The above mentioned casting, we may note, was upward of ten tons in weight.

ELECTRIC HAMMER.

M. Marcel Deprez has designed a little hammer on the steam hammer pattern, but actuated by electricity. It is now in operation at the Conservatoire des Arts et Metiers, Paris, in connection with his system of distributing the current.

The apparatus consists of a vertical solenoid over a yard high, and built up of smaller solenoids or hollow bobbins superposed end to end so as to form a hollow column.

Within this column is placed a cylinder of soft iron which can move axially up or down. The bottom of the cylinder is fitted with a hammer head which rests on the anvil when no current passes through the solenoids. The bobbins are connected in series, but the ends of each are likewise brought to the slip of a circular commutator upon which move two brushes conveying the current to the solenoids. These embrace ten slips of the commutator between

them, and are attached to a double-handed lever, by which they can be rotated round the slips of the commutator. In this way the current traverses ten bobbins at a time, but by moving the handles it can be shunted on to any ten out of the whole series of eighty; that is to say, it can be made to travel up or down the cylindrical solenoid according to the direction in which the handle moving the brushes is turned. The internal armature follows the attraction of the electrified bobbins upon it, and thus moves up or down the hollow solenoid like the stem of a steam hammer.

LAW EXAMINATIONS.

The following examination of a candidate for admission to the bar is taken as a sample of what used to be the qualifications in the States some years ago. The examination commenced with

"Do you smoke, sir?"

"I do, sir."

"Have you a spare cigar?"

"Yes" (extending a short six).

"Now sir, what is the first duty of a lawyer?"

"To collect fees."

"Right. What is the second?"

"To increase the number of his clients."

"When does your position towards your client change?"

"When making a bill of costs."

"Explain."

"We are then antagonistic. I assume the character of plaintiff, and he becomes the defendant."

"A suit decided, how do you stand with the lawyer conducting the other side?"

"Cheek, by jowl."

"Enough, sir; you promise to become an ornament to your profession, and I wish you success. Now are you aware of the duty you owe to me?"

"Perfectly."

"Describe it."

"It is to invite you to drink."

"But suppose I decline?"

(Candidate scratches his head.) "There is no instance of the kind on record on the books. I can't answer the question."

"You are right; and the confidence with which you make the assertion shows you have read the law attentively. Let's take the drink, and I will sign your certificate."

In practicing stenography one should be careful. A commercial traveller, who, in writing his orders and notes, used a contracted form of long-hand, one day puzzled his employer by ordering, "One box Tom Cats." It took the merchant some time to decipher what his traveller meant, but at last he gathered that the order was for "One box Tomato Catsup."

The editor of a certain paper, who had been bored by long poetical effusions, requested that in future his contributors should be more brief. In consequence of this request he received the following, which for brevity, would surely satisfy the worthy chief:—

"THE BALLAD OF THE MERCHANT.

"Trust—Bust."

"Yonder go the most disobliging couple in our neighborhood." "You surprise me; please explain." Oh! they always close the windows when they have a row.

It is a grand good thing when a man gives up his course of dissipation and seriously settles down, but it is an equally grand thing when a man has a stroke of conscientiousness and honestly settles up.

"Gentlemen, it is not necessary to administer the oath of secrecy to this witness as he is a member of the press, and nobody would believe any thing he might divulge."

THE VERTICAL FEED SEWING MACHINE.

Beyond dispute, the only really Perfect Machine yet produced.

AWARDED THE

ONLY GOLD MEDALS

AT THE

SYDNEY AND

MELBOURNE

EXHIBITIONS

In Competition with all the Leading Machines.



This Machine differs from all others in that the work is fed from above instead of from below, thus leaving a smooth surface for it to run upon. Owing to the peculiarity of its Feed-motion, it will sew over any unevenness, and from the thinnest to the thickest materials without change either of stitch or tension, and without any assistance from the operator. Every variety of work can be done without Tacking, thus effecting a great saving of time and trouble. With each machine is given, without extra charge, a most complete set of simple and useful attachments, by means of which the operations of Hemming, Braiding, Quilting, Ruffling, Tucking and Binding (so difficult to manage on any other machine), can be accomplished with astonishing ease and rapidity and in the greatest perfection of style. The Shuttle holds a large amount of thread, and the Bobbins are easily and evenly wound by means of an automatic Bobbin-winder which accompanies each machine.

Prospectuses, together with Samples of the work, and every information, may be obtained at the Offices of the Company.

52, QUEEN VICTORIA ST., E.C.
SOLE ADDRESS IN LONDON.

THE
LIGHT-RUNNING
STANDARD
Has No Equal.



NONE SO SIMPLE,
NONE SO DURABLE,
NONE SO RELIABLE.

Examine it Before Purchasing any other.

RENNICK, KEMSLEY & CO.,
4 FINSBURY CIRCUS, LONDON,
ALSO,
Melbourne and Sydney.

CASTRO & LIND,
HAMBURG,
MANUFACTURERS OF
Saxonia & Taylor Sewing Machines.

JOURNAL OF DOMESTIC APPLIANCES
AND
Sewing Machine Gazette.

HOSE who hoped that sewing machine litigation was a thing of the past must be sadly disappointed. During the past month our readers will see by reference to other columns that not only have county court judges been called upon to settle minor disputes and a police magistrate to hear a charge of fraud; but the House of Lords itself has been appealed to on a matter of great interest to the sewing machine trade. In two instances, that of the appeal to the House of Lords, and that of the charge of defrauding the public heard at the police court, no conclusion has been arrived at, and it would be therefore illegal to comment on either matter. It will be noticeable, however, that

in the two cases heard at the county court—which have been in relation to sewing machines let out on hire—judgments in each case have been given for the plaintiff sewing machine companies. The trade will do well to note the remark made in one of the cases by Mr. Commissioner Kerr, who said in reference to machines out on hire that “the proper thing for these sewing machine people to do is to get an undertaking in all cases from the landlord that he will not distrain, the same as is done by pianoforte dealers.”

MESSRS. S. DAVIS and Co., Period House, Borough, have enlarged their premises, having taken four adjoining shops, which they have rebuilt and elegantly fitted up.

THE ST. GEORGE'S FOUNDRY Co., of Pope Street, Birmingham, manufacturers of copying presses, bicycles and sewing machines, have taken extensive premises at 8a, Charterhouse Buildings. Mr. James Bate is their representative.

SINGER v. LOOG.

This was an appeal before the Lord Chancellor and Lords Blackburn, Watson, and Bramwell, by the Singer Manufacturing Company against the judgment of the Lords Justices. Mr. Theodore Aston, Q.C., Mr. Judah P. Benjamin, Q.C., Mr. John Rigby, and Mr. Coleman, appeared for the appellants, and Mr. Richard E. Webster, Q.C., Mr. Francis W. E. Everitt, and Mr. Philip Boyle Abraham were for the respondent. The appeal which occupied several days was commenced on the 17th ult. After hearing the arguments of the appellant's counsel and going carefully through the evidence, their lordships intimated that the case was a peculiar one, and they should require time to consider it. Notice would be given to both parties when the re-hearing would be resumed.

EXPORTS AND IMPORTS OF SEWING MACHINES During November, 1882.

EXPORTS FROM LONDON.

Demerara	8	Sewing Machines.
Rangoon	6	do.
Varna	3	do.

FROM LIVERPOOL.

Shanghai	12	cases	do.
Algiers	200	do.	do.
Beyreut	39	do.	15 packages do.
Bilbao	79	do.	do.
Melbourne	55	do.	do.
Sierra Leone	1	do.	do.
Carthage	3	do.	do.
Monte Video	10	do.	do.
Santas	61	do.	do.
Constantinople	88	crates	do.
Philadelphia	2	do.	do.

IMPORTS INTO LONDON.

Horne and Crampton, United States...	£1,360
E. H. Rolfe, Holland	£1,570
Gordon and Gotch, United States	£73
Rosenberg Leone and Co., Germany...	£138
White Sewing Machine Company, United States	£1,240

INTO LIVERPOOL.

Stavcley and Co....	£10
Mussan and Co. ...	£13
Richard Spencer and Co. ...	£60

THE HIRE OF SEWING MACHINES.

There has been some opposition of late displayed by one or two of our judges to the system of hiring sewing machines to the public, the principal objection apparently being the hardship inflicted on those who hire a machine, in case the agreement is terminated by the parties who have sent out the machine on hire.

It may be worth while therefore to examine the validity or otherwise of the objection, and in doing so, let us bear in mind that it is a fact, that there are thousands in this country who are earning an honest living by using the sewing machine, who, perhaps, would never have obtained a machine except on the hire system.

This being taken for granted, let us bear in mind, that those machines on hire would in most cases never have been sent to the parties who use them to obtain a living, unless those who sent them out had had some security for their property.

The only legitimate course open to them therefore, is to obtain an agreement signed by the hirer, which secures the machine to the party who sends it out until its full value has been paid.

It is thought by some people that it is wrong to take possession of the machine in case the payments are discontinued or nearly so, and undoubtedly it would be hard upon a hirer to take the machine away, in case there were only a few shillings to be paid, or in case of sickness, or the loss of the chief support of the family, but in such cases, such Co's as Messrs. Jones and Co., Limited, and others who might be cited, would never abuse the power they possess and take advantage of the hirer, and even where half the value of machines has been paid, and the machine has for some reason been removed from hirers possession, a reasonable time is allowed him to pay any arrears incurred, and if he should wish to purchase or re-hire the machine, the money already paid by him is allowed towards another machine.

Perhaps the chief cause of complaint and objection to the hiring of machines has arisen through the action of a few small firms or private individuals taking undue advantage of their customers, as for instance: where the machines are sold on the instalment plan without any agreement, or if any, an improper and illegal one, and then without proper authority take the machine from them when it was actually sold. Others, again, are unscrupulous in taking away machines in case of loss of situation or sickness. If, however, this course were persisted in, the party would soon reap the due reward of his deeds, by loss of reputation and loss of trade as a natural result.

It would be well for those who indulge in adverse criticism to the hire system properly conducted, to remember that a very large number of the people who use sewing machines find it difficult to pay a large sum of money all at once, and a still larger number never have in their possession a five pound note, consequently, if these people did not obtain machines on the easy payment system they would never have them at all.

That sewing machines are a necessity, where there is a family, none can doubt, and even where there is no family at all, a woman with a good machine can earn from 15s. to 25s. per week, when the same amount and quality of work would take at least a month to do by hand. If we take the lowest amount, viz., 14s. per week, the value of the machine would be earned in a few weeks or months at most.

It is well known and frankly admitted by the sewing machine company's that the cash system is decidedly in favour of the customer, because of necessity, the cost of collection and the risk of losing the machine (though limited) cannot be incurred for nothing. The cash system too is always the more welcome method, and is encouraged by offering large discounts to cash purchasers. Is not this done by almost every other business. But when it is remembered that (except in the case of manufacturers) by far the largest number of those who use sewing machines are comparatively poor and depending for their living on the machine, the objections against the hire system are merely sentimental and fall to the ground.

THE HISTORY OF LOCKS AND KEYS.



PROPERTY, or the symbols by which it is represented' would lose half the attraction were it not for the sense of secure possession. The man who makes two blades

of grass to grow where only one grew before, is rightly accounted worthy of honour; and we may well think with reverence of the man who first caught a wild horse by the mane, put a leather thong over its neck and then forced a bit into its mouth, and made it obediently serve him. But almost equal honour is due to the unknown benefactor of society in all time coming who first discovered how a heavy bolt could be moved and put in such a position as to close fast a door or a lid by means of an instrument which could be easily carried about; for he was the first inventor proper of the lock and key, which now in their later scientific refinements do so much to guard and make secure, to enable us to keep watch and ward as effectually when absent as when present.

The archeological association of locks and keys might furnish matter for volumes, and indeed volumes have been written on the subject. To bear the key on the shoulder was a symbol of power and authority throughout the East in early times. The key of an ordinary house in these times was commonly thirteen or fourteen inches long; the key of the gate of a public building, or of a street or quarter of a town, was two feet and more in length.

Keys, too, in the shape of a sickle, very convenient in form for carrying on the shoulder, were common in the East and in Greece. Afterwards they were more elegantly made with ivory handles, and were regarded as ornaments.

The remains of old keys found at Herculaneum abundantly prove that a kind of warded lock must have been in use among the ancient Romans; and further proof on this point is yielded by the ancient keys now and then dug up in parts of England, and belonging to the period of the Roman occupation.

While the Romans made the keys of bronze, the locks were formed of iron, which accounts for the decay of the latter, and for the fact that our ideas of the locks are derived from the keys, some of which were not only finely formed, but fitted for ornaments. The Roman key has generally a handle in the form of a ring, occasionally of a loop, and its general construction is remarkable for neatness and strength. In many specimens the stem was so short and entwined in such a way that the ring could be worn on the finger.

The locks and keys of the middle ages are not only preserved in many examples, but are to be found depicted in suggestive emblem in missal and tapestry, or in elaborate carvings. Design was carefully studied, and great attention paid to hand-work, each part being diligently worked upon.

In the 15th and 16th centuries the blossoming of art made itself distinctly felt in the sphere of the locksmith, who found in the then active armourer a formidable rival, alike in design and workmanship. And the great architects and builders of these days were not above paying attention to what might be named minor matters, devoting themselves to designing locks for the structures they built, and grudging not to spend days and nights to attain perfection. The locks and keys of these times reflected the revived atmosphere of art. The locksmiths were more intent on outside decoration and symmetry than on inventing new principles of mechanism for greater security against lock-pickers. Beauty or ornamentation was the great end, and they attained it. In many of these keys the stem really becomes a Corinthian column with capital, surmounted by classical designs in the shape of dolphins, mermaids, syrens, or griffins, placed back to back, with wings or tails interlaced to form the handle.

In the 17th and 18th centuries the general decadence of art is seen in the making of locks and keys; designs even became poor, artificial, and conventional. And this, notwithstanding that invention had been busy, and had not passed over locks and keys without touching them with its own lustre. Aristocratic inventors like the Marquis of Worcester, had not forgotten locks and keys,

and, later, royalty itself condescended to add a halo to their history. Louis the Sixteenth of France—unfortunate Louis—had a passion for lockmaking, and used to be welcomed to a more elegant apartment than that he worked in with the words: "Ah, voilà, mon dieu Vulcan!"

The essential principle of the Egyptian lock was moveable pins or nails dropping each independently, by its own weight, into the bolt, and securing it on being touched at the right point by corresponding pins at the end of the true key, all of them requiring to be raised together to the proper height. The very latest ideas in lock-making may be regarded as suggestions or applications of this principle. One of the most noticeable and curious of these is the useful and popular Yale Lock in America, where the endless variations are attained by differing elevations on the edge of a small steel plate. The various points act on pins which, being in succession raised to the proper level, relieve the bolt. This lock is found of the utmost utility in the great letter-box corridor of the Post Office in the city of New York; the small pigeon-hole repositories allowing only a very small lock, which this principle highly favours.

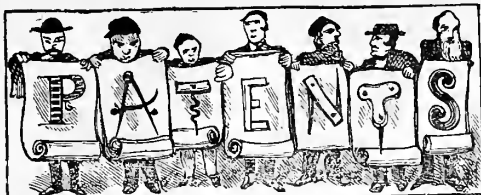
The year 1640 had seen the manufacture of the first detector lock—a mere curiosity apparently—of which the Marquis of Worcester in his 'Centurie of Inventions' says: "This lock is so constructed that if a stranger attempt to open it, it catches his hand as a trap catches a fox, though so far from maiming him for life, yet so far marketh him that if suspected he might easily be detected." This, however, was clearly something different from the later invention of an additional lever lying over the tumblers and locking fast on the bolt if any of them are lifted too high.

Before the appearance of Mr. Barron with his famous lock in 1774, the locks generally used in England were simply bolts which, whether shut or open, were held in position by a spring that pressed them down and held them at either end of a convex notch. The only obstructions to the driving back of the bolt were the wards, and these could easily be discovered by the insertion of a skeleton key covered with wax. To pick these locks, therefore, was easy. But Mr. Barron began a new era. He not only produced a great improvement on the locks in use, but he suggested further invention. The great point in his lock was the introduction of what is called the "overlift" and the introduction of a second "tumbler."

About the year 1778, a lock with four double-acting levers was invented by Price, a piece of work which, at the time, promised so much practical use that it is surprising it did not gain general attention. The peculiarity of this lock was that it locked without the key by pressing a stud or knob, which released a common tumbler in the main bolt; the four levers having plain gatings. The bolt was driven forward, or locked out, by a powerful spring, and "follow" pressing against the bolt head. To unlock it the key was used in the ordinary way. All the modern spring or self-acting locks, are constructed precisely on the same principle as that exhibited in this lock, except that, in the modern locks the driving spring is placed against the bob-tail instead of the bolt head.

Mr. Denson, who is himself the inventor of a valuable lock, tells of a Chinese wooden lock of very superior character to the Egyptian and remarks, that it is exactly similar in principle to the long celebrated Bramah lock, inasmuch as it requires a number of independent sliders to be pushed into different depths before the lock can be opened. "This very interesting and remarkable lock," he adds, was shown to him by Mr. Chubb, to whom it had been given by a gentleman who brought it from China. He did not know how many years, or thousands of years it had existed there, but probably, he adds, 'long before Bramah's time, just as the recent invention here of that very neat and useful instrument the spiral or cork screw drill, was found to have been anticipated long ago in India.'

In Bramah's lock, which was patented in 1784, there is a combination of direct and rotatory motion given to the key instead of simply the latter, as in Barron's.



The following List has been compiled expressly for this Journal, by G. F. REDFERN, Patent Agent, 4, South-street, Finsbury, and at Paris and Brussels.

APPLICATIONS FOR LETTERS PATENT:—

- No. 4866. J. D. Hankey, of 25, Aden-grove, Stoke Newington, London, for a brake applicable to the wheels of carriages, but more especially applicable to the wheels of tricycles. Dated October 13, 1882.
- „ 4875. E. Guattari, of Shirland-gardens, Paddington, London, for a new or improved device for preventing the surreptitious opening of doors and windows. Dated October 13, 1882.
- „ 4891. G. E. Webster, C.E., of Nottingham, Engineer, for carrying away the products of combustion of gas in gas-heating stoves, and the general construction of gas-stoves for heating, including the regulation of the supply or pressure of the gas. Dated October 14, 1882.
- „ 4894. J. Wadsworth, of Manchester, for improvements in apparatus for heating, cooking, and ventilating and in atmospheric gas burners for heating purposes. Dated October 14, 1882.
- „ 4898. J. P. Dalby, of Leeds, for improvements in tricycles or other similar vehicles. Dated October 14, 1882.
- „ 4903. C. Ferranti, of Liverpool, for improvements in or appertaining to galleries or lamp bowls (for electric, gas, or oil lamps), or other fragile articles. Dated October 14, 1882.
- „ 4907. H. Clarke, of Leicester, for improvements in machinery and apparatus applicable to hosiery stitching machines. Dated October 16, 1882.
- „ 4912. T. F. Simmons, of Ardenote, Thornhill-road, Croydon, London, Traveller, for improvements in perambulators. Dated October 16, 1882.
- „ 4922. R. Adams, of 7, Great Dover-street, Southwark, London, for improvements in means and appliances for setting, tightening, repairing, and renewing the spokes of velocipedes and other tension wheels. Dated October 16, 1882.
- „ 4923. E. H. Hodgkinson, of Wimpole-street, London, for improvements in velocipedes. Dated October 16, 1882.
- „ 4925. W. Jeans, of Christchurch, Hampshire, for improvements in velocipedes. Dated October 16, 1882.
- „ 4936. P. M. Justice—a communication from C. Lightbody, of Brooklyn, New York, United States, for improvements in water or stretch tray connections. Dated October 17, 1882.
- „ 4937. W. H. Greenwood, of Honley, near Huddersfield, for an improved construction of apparatus to be employed in clipping horses and sheep. Dated October 17, 1882.
- „ 4939. W. P. Thompson—a communication from the Morley Sewing Machine Company, of Boston, Massachusetts, United States; C. A. Sinclair, Treasurer, for improvements in sewing machines and button feeding devices adapted to be used therewith. Dated October 17, 1882.

- No. 4941. A. J. Boulton—a communication from W. C. Scaton, of Quebec, Canada, for improvements in wick trimmers. Dated October 17, 1882.
- „ 4951. H. Fleming, of Halifax, Yorkshire, for improvements in adjustable coverings or casings for locks and latches. Dated October 18, 1882.
- „ 4960. A. H. Alldridge, of 54, Edward-street-parade, Birmingham, Manufacturer, for improvements in the construction of tricycles. Dated October 18, 1882.
- „ 4961. J. Kaye, of Kirkstall, Yorkshire, for improvements in oil cans. Dated October 18, 1882.
- „ 4968. W. R. Lake—a communication from J. D. Frary, of Bridgeport, Connecticut, United States, for improvements in the manufacture of razor-blades. Dated October 18, 1882.
- „ 4980. H. McRuer, of Glasgow, for improvements in cooking ranges. Dated October 19, 1882.
- „ 4983. H. J. Haddan—a communication from Messieurs. Stelzig, Kittel and Company, of Steinschönau, Austria, Hungary, for improvements in lamp glasses or globes. Dated October 19, 1882.
- „ 4985. J. Templeton and J. Hilson, both of London, for improvements in motive power apparatus for actuating sewing machines. Dated October 19, 1882.
- „ 4989. J. A. Slater, of Birmingham, Lamp Manufacturer, for improvements in lamps for bicycles, tricycles, and other velocipedes. Dated October 19, 1882.
- „ 4993. J. Hayes—a communication from E. Remy, of Paris, for improvements in cocks and taps. Dated October 20, 1882.
- „ 4995. T. Kay, of Stockport, Cheshire, Chemist, for improvements in apparatus for warming and heating rooms and places, and in appliances connected therewith. Dated October 20, 1882.
- „ 4998. A. W. Kershaw, of Lancaster, Architect, for the better generation and more equable diffusion or distribution of artificial light. Dated October 20, 1882.
- „ 5003. A. S. Clerk, and F. Dowling, both of London, for improvements in apparatus for producing audible signals or alarms on tramcars, bicycles, and other wheeled vehicles. Dated October 20, 1882.
- „ 5008. F. G. Lynde, of Melton Mowbray, Leicestershire, for improvements in filters. Dated October 21, 1882.
- „ 5027. G. A. Bidds, of Newbury, Berkshire, for improvements in apparatus for regulating the supply of water to water closets and other places and for preventing waste. Dated October 21, 1882.
- „ 5031. E. A. Brydges—a communication from J. Ring, of Vienna, for improvements in velocipedes. Dated October 23, 1882.
- „ 5062. S. Pitt—a communication from L. B. Miller and P. Diehl, of Elizabeth, New Jersey, United States, for improvements in sewing machines. Complete Specification. Dated October 24, 1882.
- „ 5064. H. F. Read, of Brooklyn, New York, United States Manufacturer, for parallel vices for machinists use. (Complete Specification.) Dated October 24, 1882.
- „ 5066. L. Bagger—a communication from G. W. Hight and D. H. Bailey, both of Nashville, Tennessee, United States, for improvements in ratchet wrenches. (Complete Specification.) Dated October 24, 1882.
- „ 5073. E. R. Settle, of Coventry, for improvements in or connected with velocipedes. Dated October 24, 1882.
- „ 5082. G. F. Redfern—a communication from J. P. Lawrence, of Worship-street, London, but temporarily of Philadelphia, Pennsylvania, United States, for improvements in bit stocks. Dated October 24 1882.

- No. 5087. R. C. Fletcher, of Tarleton Rectory, near Preston, Lancashire, Clerk in Holy Orders, for improvements in and connected with velocipedes. Dated October 25, 1882.
- „ 5094. H. Greene and T. A. Greene, both of 155, Cannon-street, London, for a new or improved method of using ordinary argand burners so as to obtain an increased light therefrom. Dated October 26, 1882.
- „ 5095. H. Greene and T. A. Greene, both of 155, Cannon-street, London, for a new or improved governor or regulator for regulating the supply of gas or other aeriform fluids. Dated October 26, 1882.
- „ 5103. G. H. C. Hughes, of Saint Stephen's-street, Birmingham, Manufacturer, for improvements in or relating to velocipedes, perambulators, and invalid chairs, part of which may be applied to other vehicles. Dated October 26, 1882.
- „ 5124. A. W. L. Reddie—a communication from L. J. Masseron, of Paris, for improvements in alarm bells or gongs for doors and other places, and in means for actuating the same. Dated October 27, 1882.
- „ 5135. J. B. Brooks, of Birmingham, Manufacturer, for improvements in the construction of saddles for bicycles and tricycles. Dated October 28, 1882.
- „ 5146. J. Patterson, of Belfast, Ireland, "Linen Bleacher," for improvements in the method of washing fabrics and in apparatus therefor. Dated October 30, 1882.
- „ 5156. A. Brydges—a communication from C. Klanke, of Müncheberg, Germany, for improvements in wire fencing with spurs or points, and in machinery to be employed in connection therewith. Dated October 30, 1882.
- „ 5165. A. M. Clark—a communication from W. W. Goodwin, of Philadelphia, Pennsylvania, United States, for improvements in gas cooking stoves or ranges. (Complete Specification.) Dated October 30, 1882.
- „ 5179. C. Browning, of Glasgow, for improvements in and connected with sewing machines. Dated October 31, 1882.
- „ 5186. J. Wetter—a communication from C. Lovell, of the state of Massachusetts, United States, for improvements in stove pipe attachments. Dated October 31, 1882.
- „ 5197. W. R. Lake—a communication from J. Cooper, of Boston, Massachusetts, United States, for improvements in apparatus for flushing water closets and for similar purposes. (Complete Specification.) Dated October 31, 1882.
- „ 5204. T. Thorp, of Whitfield, Lancashire, Architect, for an improved gas lighting and regulating apparatus. Dated November 1, 1882.
- „ 5209. F. Simmonds, of Garden-row, Blackfriars-road, London, Machinist, for improvements in sewing machines. Dated November 1, 1882.
- „ 5234. G. Singer, of Coventry, and W. R. Davies, of Abergavenny, Monmouthshire, Railway Clerk, for improvements in bicycles and tricycles. Dated November 2, 1882.
- „ 5238. A. H. Robinson, of 4, Clyde-road, Dublin, for improved means and apparatus to be used in connection with lamps or other burners for illuminating and heating purposes. Dated November 2, 1882.
- „ 5239. A. J. Boulton—a communication from W. P. A. Heiser, of Berlin, Germany, for improvements in furnaces, stoves, ranges, and the like. Dated November 2, 1882.
- No. 5247. J. H. Topham, of 20, Barton House, Deansgate, Manchester, for heating water for all uses by gas jets as rapidly as it issues from the supply pipe. Dated November 3, 1882.
- „ 5250. W. D. Scott-Moncrieff, of Fulham, and W. Dodda, of Westbourne-park, London, for improvements in valve apparatus for supplying baths and other apparatus with water, and available for admixing other liquids. Dated November 3, 1882.
- „ 5259. A. E. Crisp, of Rose Villa, St. Ann's-road, Stamford-hill, London, for improvements applied to window fasteners. Dated November 4, 1882.
- „ 5266. R. Chapman, of Patricroft, Lancashire, Machinist, and J. Hibbert, of Manchester, Machinist, for improvements in apparatus for closing doors and windows. Dated November 4, 1882.
- „ 5274. A. M. Clark—a communication from Messieurs. Gollot Frères, of Paris, for improved means for attaching hat pegs, coat hooks, curtain holders, wall brackets, gas brackets, chandeliers, and other objects to walls and ceilings. Dated November 4, 1882.
- „ 5301. R. G. Hodgetts, of Birmingham, for improvements in the manufacture and ornamentation of metallic bedsteads and other articles of metallic furniture. Dated November 6, 1882.
- „ 5307. R. E. Phillips, of 32, Selby-road, Anerley, Surrey, for improvements in velocipedes and parts appertaining thereto. Dated November 7, 1882.
- „ 5310. J. G. Whyte, of Bo'ness, Linlithgow, North Britain, for improvements in the construction of cooking ranges and other descriptions of fire grates. Dated November 7, 1882.
- „ 5312. J. Bartlett, of Messrs. Strode and Co.'s Works, Osna-burgh-street, Regent's-park, London, for a new or improved gas stove for heating water for baths and other like purposes. Dated November 7, 1882.
- „ 5329. C. D. Abel—a communication from T. Girolamo, of Turin, Italy, for improvements in portable baking ovens. Dated November 8, 1882.
- „ 5332. F. P. Chaimsonovitz, of Leytonstone, Essex, for improvements in the production of light and heat and apparatus therefor. Dated November 8, 1882.
- „ 5336. G. Kenworthy, of Huddersfield, for an improved apparatus for heating or whipping eggs, cream, or the like. Dated November 8, 1882.
- „ 5347. L. Lane, of 3, Stockwell-park-road, London, for improvements in smokeless stoves and grates. Dated November 9, 1882.
- „ 5350. H. Thresher, of Finsbury-park, London, for improvements in driving gear, chiefly for velocipedes, partly applicable to other purposes. Dated November 9, 1882.
- „ 5358. E. A. Brydges—a communication from D. Grove, of Berlin, Sanitary Engineer, for improvements in transportable baking ovens. Dated November 9, 1882.
- „ 5361. J. P. Rothwell, M.R.C.V.S., of the Ribble Ironworks, Lytham, Lancashire, for improvements in washing, wringing, and mangling machines, parts of which are also applicable to some other purposes. Dated November 10, 1882.
- „ 5362. J. Ungar, of Chancery-lane, London, for improvements in and connected with lamps. Dated November 10, 1882.
- „ 5364. H. S. S. Watkin, of the Royal Gunpowder Factory, Waltham Abbey, Essex, Captain in the Royal Artillery, for improvements in tricycles and other velocipedes. Dated November 10, 1882.

- No. 5367. J. A. Graham, of 66, Coleman-street, London, for improvements in coating or covering iron with lead. Dated November 10, 1882.
- „ 5369. J. Noad, of Hawthorn Cottage, East Ham, Essex, Engineer, H. Blackwell, junior, of Stroud-green-road, Finsbury-park, and H. B. Bunkell, of Alexander-villas, Finsbury-park, London, for improvements in velocipedes, which improvements are also applicable in the transmission of power for other purposes. Dated November 10, 1882.
- „ 5375. A. J. Boulton—a communication from Messieurs. Bontgen and Sabin, of Solingen, Germany, for improvements in folding pocket scissors. Dated November 11, 1882.
- „ 5383. J. J. Tylor, of 2, Newgate-street, London, Brassfounder, for improvements in apparatus and arrangements for the water supply of water closets, baths, and urinals, and preventing waste; applicable also in whole or in part for controlling, regulating, and arresting the flow of liquids and fluids, and preventing waste. Dated November 11, 1882.
- „ 5396. T. H. Gillott, of Royston, Hertfordshire, for improvements in apparatus for grinding lawn-mower cutters. Dated November 13, 1882.
- „ 5405. J. F. Stephens, of Bristol, for an extension rule or gauge. Dated November 13, 1882.
- „ 5407. J. Wetter—a communication from J. Grant, of Boston, Massachusetts, United States, for improvements in filters. (Complete Specification.) Dated November 13, 1882.
- „ 5413. F. O. Schmidt, of Berlin, Germany, for improvements on circular shuttles with inserted spool for sewing machines, and in mechanism for operating the same. Dated November 13, 1882.
- „ 5415. F. Weldon, of 54, Lancaster-gate, London, Lieutenant-Colonel in the Madras Staff Corps, for improvements in velocipedes. Dated November 13, 1882.

Letters Patent have been issued for the following :—

- No. 1740. A. Browne—a communication from L. Breglia, of Dresden, Saxony, for a new or improved stove. Dated April 12, 1882.
- „ 1886. C. W. Morley, Gas Engineer, of 32, Fitzroy-road, Regent's-park, London, for improvements in apparatus for shewing the illuminating power of gas burners. Dated April 20, 1882.
- „ 1962. E. Behrens, of East Greenwich, London, for improvements in copying presses. Dated April 25, 1882.
- „ 1975. T. E. Bladon, of Birmingham, Lamp Manufacturer and Tin Plate Worker, for improvements in ventilators and chimney cowls. Dated April 26, 1882.
- „ 1979. J. Beresford, of the firm of Beresford and Company, of Birmingham, Silversmiths and Electro-platers, for improvements in urinals. Dated April 26, 1882.
- „ 1985. J. W. Kenyon, of Manchester, Engineer, for improvements in low water alarm apparatus. Dated April 27, 1882.
- „ 1991. C. D. Abel—a communication from T. J. W. Geerkens, of Tönnig, Germany, for improvements in tools or apparatus for cutting pipes or tubes. Dated April 27, 1882.
- „ 2019. T. Fletcher, of Museum-street, Warrington, Lancashire, for improvements in gas burners for heating purposes. Dated April 28, 1882.
- „ 2033. M. M. Merichenski, of Poplar, London, for a new or improved method of or contrivance for securing the blades of knives and other edge tools in their handles. Dated April 29, 1882.
- No. 2103. G. W. von Nawrocki—a communication from A. Brecher, of New York, United States, for improvements in and connected with irons, especially applicable to box irons heated by gas. Dated May 4, 1882.
- „ 2114. T. Cooke, of Manchester, Perambulator Manufacturer, for improvements in the manufacture of perambulator wheels. Dated May 5, 1882.
- „ 2120. W. McGill, of 32, Cottage-grove, Lambeth, London, Clerk of Works, for improvements in and appliances connected with urinals, parts of which may be employed for flushing other places. Dated May 5, 1882.
- „ 2121. T. W. Helliwell, of Brighouse, Yorkshire, Architect and Surveyor, for improvements in water closets, basins, and in the means of flushing same; also in the means or method of conveying away the noxious gases therefrom, and from other construction of closets. Dated May 5, 1882.
- „ 2133. F. J. Duggan, of Ellbroad-street, Bristol, Lamp and Stove Manufacturer, for improvements in the construction of stoves and lamps for consuming petroleum and other oils, and of burners applicable to the same and similar stoves and lamps and also in the construction of apparatus for cooking and other analogous purposes, suitable for use in connection with the said stoves and lamps. Dated May 6, 1882.
- „ 2139. B. Bennett, of Coventry, for improvements in or relating to velocipedes. Dated May 6, 1882.
- „ 2148. W. Dawes, Engineer, of Kingston-grove, Leeds, and J. Tankard, of Woodhouse-lane, Leeds, Engineer, for improvements in tricycles and other manumotive vehicles. Dated May 6, 1882.
- „ 2158. H. F. D. Miller, of Birmingham, for certain improvements in lamps applicable for bicycles, tricycles, and other velocipedes. Dated May 8, 1882.
- „ 2174. C. Harvey, Manager, and W. Paddock, Engineer, both of Birmingham, for improvements in tricycles and other velocipedes. Dated May 9, 1882.
- „ 2189. A. Payne, of East Moulsey, Surrey, for an improved apparatus for sharpening razors and knives. Dated May 10, 1882.
- „ 2221. J. Archer and T. L. Archer, both of 18, Fennel-street, Manchester, for improvements in the means or contrivances used for holding securely in place the globes or glasses of gas and other lamps. Dated May 11, 1882.
- „ 2265. J. Hinks, of Birmingham, Manufacturer, for improvements in lamps for burning light or volatile oils. Dated May 13, 1882.
- „ 2266. W. Newell, Manufacturer, and T. Tollett, Die Sinker, both of Birmingham, for improvements in the manufacture of combined letter-box and name plates. Dated May 13, 1882.
- „ 2275. T. Welton, of Southampton-buildings, London, for improvements in bedsteads, couches and chairs, especially applicable to the use of invalids, part of which improvements are also applicable to other purposes. Dated May 15, 1882.
- „ 2299. W. R. Lake—a communication from A. Fitz Gerald, of Fairfield, Maine, United States, for improvements in and relating to cabinets or stands for sewing machines and like articles. Dated May 16, 1882.
- „ 2307. F. Versmann—a communication from H. Kleucker, of Brunswick, Germany, for improvements in dry or earth closets. Dated May 17, 1882.

- No. 2312. G. W. von Nawrocki—a communication from L. Schmetzer, of Rothenburg-on-the-Tauber, Germany, for improvements in children's chairs. Dated May 17, 1882.
- „ 2327. T. H. P. Dennis, of 20, High-street, Chelmsford, Essex, for improvements in the mode and means of attaching or fixing of knobs and handles to spindles or shanks, and of adjusting the same. Dated May 17, 1882.
- „ 2343. W. R. Lake—a communication from G. Gowing, of Oakland, California, United States, for improvements in and relating to machines for sewing heavy fabrics such as carpets and the like. Dated May 18, 1882.
- „ 2353. J. T. King—a communication from G. K. Reber, of Pittsburgh, and T. W. Irwin, of Allegheny, both in the states of Pennsylvania, United States, for improvements in water conductors or spouts and attachments therefor. Dated May 15, 1882.
- „ 2380. A. Phillips, of Excelsior Works, Rea-street, South, Birmingham, for improvements in velocipedes. Dated May 20, 1882.
- „ 2413. R. Kirkman, junior, of The Spinneys, Cosby, Leicestershire, Farmer, for improvements in lawn mowers. Dated May 22, 1882.
- „ 2433. A. Greenwood, of Leeds, Machine Maker, for improvements in reciprocating shuttle sewing machines. Dated May 23, 1882.
- „ 2483. W. E. Gedge—a communication from E. Cornely, of Paris, for improvements in universal embroidering machines. Dated May 25, 1882.
- „ 2498. A. M. Clark—a communication from C. A. Crongeyer, of Detroit, Michigan, United States, and G. W. Busch, of Walkerville, Ontario, Canada, for improvements in door fasteners. Dated May 25, 1882.
- „ 2536. H. H. Taylor, and G. H. Taylor, both of Sheffield, for a novel method of securing the 'scales' to the tangs or blades of articles of cutlery. Dated May 27, 1882.
- „ 2617. A. Greenwood, Machine Maker, and J. W. Ramsden, Mechanic, both of Leeds, for improvements in sewing machinery. Dated June 3, 1882.
- „ 2623. E. L. Missonnier, of Rupert-street, Coventry-street, London, Mechanician, for improvements in the method of and appliances for arresting and detaining a person attempting to surreptitiously open a door, window, safe, and for simultaneously giving an alarm. Dated June 3, 1882.
- „ 2649. J. Helyar, of Yeovil, for an improvement in a pique sewing machine. Dated June 6, 1882.
- „ 2814. T. Wilson, of Birmingham, Esquire, for improvements in metallic bedsteads, bedstead bottoms, and mattresses, parts of which improvement are applicable to chair, sofa, and other such like seats or bottoms. Dated June 14, 1882.
- „ 2979. H. J. Haddan—a communication from O. C. White, of Massachusetts, United States, for improvements in ball and socket joints. Dated June 23, 1882.
- „ 3230. W. T. Shaw, of Adelaide-road, Surbiton, Surrey, and W. Sydenham, of Wood-street Chambers, Old-street, London, for improvements in tricycles, bicycles, and other velocipedes. Dated July 7, 1882.
- „ 3328. C. W. Siemens, of 12, Queen Anne's-gate, Westminster, London, for improvements in lamps. Dated July 13, 1882.
- „ 3344. W. S. Laycock, of Sheffield, for improvements in self-acting window-blind apparatus. Dated July 14, 1882.

- No. 3371. H. A. Williams, of the The Avenue, Lincoln, for improvements in and connected with pulleys for window-blind and other rollers. Dated July 15, 1882.
- „ 3425. H. A. Cutler, of Clare Villa, Upton, Essex, for improvements in ball valves. Dated July 19, 1882.
- „ 3542. B. Davies, of Adlington, and J. Eckersley, of Blackrod, both in Lancashire, for improvements in the construction of machines for washing and rinsing fabrics. Dated July 26, 1882.
- „ 3782. J. Beale, of 10, Vanbrugh-park-road, West, Blackheath, Kent, Engineer, for improvements in bicycles. Dated August 9, 1882.
- „ 3944. G. J. Dickson, of Albany, New York, United States, for improvements in sash fasteners. Dated August 17, 1882.
- „ 4113. J. H. Johnson—a communication from C. H. Willcox, of New York, United States, for improvements in sewing and trimming knit goods and other fabrics, and in forming welts or hems thereon, and in machinery for sewing, trimming, and wetting hosiery, and for other purposes. Dated August 29, 1882.

PATENTS WHICH HAVE BECOME VOID :—

- No. 4059. W. C. Woodhams, of 64, Long-acre, London, and of Abbey Mills, West Ham, for a composition for the preservation of steel and all other metals from rust and from the effect of salt water, also for the preservation of ships' bottoms and all kinds of woodwork. Dated October 8, 1879.
- „ 4067. H. L. Wilson and J. Clegg, both of Clayton-le-Moors, for improvements in springs for washing, wringing, and mangling machines. Dated October 8, 1879.
- „ 4084. A. G. Henderson, of Edinburgh, for improvements in gas meters. Dated October 9, 1879.
- „ 4088. J. Hamilton, of Halifax, Wire Worker, for improvements in soldering irons. Dated October 9, 1879.
- „ 4092. T. H. S. Hawker, of Dalston, T. Puntis, of Upton-park, and C. J. Boyce, of Wandsworth, all in London, for improvements in velocipedes and other wheeled vehicles, part of which invention is applicable to axle and other bearings to reduce friction. Dated October 9, 1879.
- „ 4103. A. Parkinson and D. Sweaney, both of Manchester, Sanitary Engineers, for improvements in sanitary receptacles. Dated October 10, 1879.
- „ 4108. W. R. Lake—a communication from the Company J. A. Tholozan et Cie, of Nîmes, France, for improvements in knitting machines, chiefly designed for the manufacture of gloves, mittens, stockings, and the like. Dated October 10, 1879.
- „ 4114. J. T. B. Bennett, of 60, Angelsea-street, Lozells, Aston, for improvements in door and other hinges, and stops or regulators connected therewith. Dated October 11, 1879.
- „ 4119. W. H. Wilkinson and G. Wilkinson, both of Birmingham, Electro-plate Manufacturers, for coloured ornamentation of electro-plated and other such like goods, and for rendering the aforesaid articles unmarishable. Dated October 11, 1879.
- „ 4127. Q. L. Brin, of Shepherd's Bush, London, partly a communication from A. Brin and A. Valère, both of Paris, for improvements in the production of light and heat, and in apparatus for same. Dated October 11, 1879.
- „ 4135. W. Potts, of Birmingham, for an improved moulded rod for suspending pictures, applicable to other analogous purposes. Dated October 13, 1879.

- No. 4150. W. Hayward, of Ettingshall New Village, near Wolverhampton, for improvements in iron fencing. Dated October 14, 1879.
- „ 4160. W. S. Codner, of 10, Quadrant-road, Cannonbury, London, for improvements in means for attaching knobs to their spindles for door furniture; also applicable for other similar purposes. Dated October 14, 1879.
- „ 4168. A. Hall, of 38, Albany-villas, West Brighton, for improvements in the construction of ventilators and chimney cowls. Dated October 15, 1879.
- „ 4171. N. A. Young, of San Francisco, United States, for improvements in permutation padlocks. Dated October 15, 1879.
- „ 4175. J. C. Morrell, of Leyland, Lancashire, Gentleman, for improvements in wheels for bicycles, tricycles, and all light carriages. Dated October 15, 1879.
- „ 4177. F. R. Baker, of Birmingham, Engineer, for improvements in mechanism for lighting hydrocarbon and other lamps. Dated October 15, 1879.
- „ 4229. F. H. F. Engel—a communication from W. Klinkerflues, of Göttingen, Germany, for improvements in automatic apparatus for lighting and extinguishing gas burners. Dated October 18, 1879.
- „ 4260. T. S. Truss, of 30, Essex-street, Strand, London, for improvements in the construction of valve motions and valves applicable to traps for sanitary purposes, as also for sluice valves and other purposes. Dated October 22, 1879.
- „ 4344. J. W. Goundry, of Darlington, for means for improving the intonation of musical instruments having the ordinary pianoforte keyboard. Dated October 24, 1879.
- „ 4359. P. Jensen—a communication from J. M. Davies, of Hamilton, Ontario, Canada, Machinist, for improvements in washboards. Dated October 25, 1879.
- „ 4366. W. Lucke, of Muelheim-on-the-Rhine, for improvements in lamps. Dated October 27, 1879.
- „ 4381. C. Askew, of Grizedale, near Hawkhead, Lancashire, for improvements in apparatus for sharpening horse clippers. Dated October 28, 1879.
- „ 4419. J. Fisher, of Southampton-buildings, London, for improvements in the ventilation and supply of air to houses, rooms, and other places, and in apparatus for producing and regulating such ventilation and supply of air. Dated October 29, 1879.
- „ 4421. J. Wood, of Newport, Monmouthshire, for a sanitary disinfecting vessel. Dated October 30, 1879.
- „ 4443. J. Rimmer, of Sheffield, Engineer, for improvements in securing the blades of shears to their shanks and bows. Dated October 31, 1879.
- „ 3529. W. R. Lake—a communication from G. F. Simonds, of Boston, Massachusetts, United States, for an improved process and apparatus for tempering and straightening saws and other articles of steel or of steel and iron. Dated October 11, 1875.
- „ 3585. J. Dyer, of Sydmonth, Devonshire, for improvements in benzoline lamps. Dated October 15, 1875.
- „ 3653. G. F. Bradbury, of Crumpsall House, near Manchester, and H. Lomax, of Over Darven, Sewing Machine Maker, for improvements in sewing machines. Dated October 21, 1875.
- „ 3694. T. W. Boverley, of Sheffield, Machinist and Tool Maker, for improvements in the construction of radial drills, which improvements are also applicable to other similar purposes. Dated October 25, 1875.
- „ 3767. J. Coignard, of Nantes, France, for improvements in machinery for sewing sails and heavy work of a like character. Dated October 29, 1875.

- No. 3843. W. C. Stiff—a communication from J. S. Leng, of Brooklyn, New York, United States, for improvements in stop valves. Dated November 4, 1875.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1d. each extra.

- No. 539. J. R. C. Taunton and G. O. Aston, manufacturer of metallic bedsteads 10
- „ 1077. J. J. Lish, fire blowers for hastening combustion and abating smoke in fire-grates, &c... .. 6
- „ 1092. T. Priestley, machinery employed in knitting machines 6
- „ 1098. J. M. Taylor and G. Wethered, working velocipedes 8
- „ 1113. R. Pearson, combination stretch traps 8
- „ 1114. W. Skaife, lamps for bicycles, tricycles, &c. 6
- „ 1128. J. Rawson, apparatus for controlling the flow of water from cisterns 6
- „ 1130. G. F. Redfern, mechanism for propelling and controlling vehicles by hand 2
- „ 1131. E. Smith, mats... .. 2
- „ 1143. E. P. Phillips, spring hinges 6
- „ 1144. R. H. Wylde, atmospheric burners... .. 2
- „ 1148. J. Maynes, producing cut nails from hoop iron, &c. 6
- „ 1176. T. F. D. Heap and J. Rettle, spoon... .. 6
- „ 1181. J. Ridal, implements for pruning, &c. 6
- „ 1192. W. R. Lake, apparatus for folding, tucking, braiding, &c. 6
- „ 1194. W. R. Lake, apparatus for ruffling, plaiting, &c... .. 6
- „ 1200. F. des Voeux, mincing machines for sausage making, &c. 6
- „ 1207. C. B. Wood, apparatus for giving alarm in case of accidents, burglars, &c... .. 2
- „ 1210. R. H. Bishop and W. Down, knife cleaning machines 2
- „ 1213. R. Wright, fire grates... .. 4
- „ 1218. H. Beech, knife cleaners 4
- „ 1237. A. Reckenzaun and J. H. Redfield, producing light and heat... .. 6
- „ 1240. W. Hollingworth, apparatus for sewing leather, &c... .. 6
- „ 1257. W. Whiteley, stop valve 4
- „ 1275. H. F. Miller, lamps for bicycles, &c. 2
- „ 1276. J. W. Willmot and T. Leehman, gas burners 2
- „ 1307. J. M. Gorham, foot skate 2
- „ 1325. C. Slagg, drain and sewer pipes 4
- „ 1326. C. Slagg, trap for drains 2
- „ 1344. H. S. Whitehouse, supporting and adjusting the back rests of bassinet perambulators &c. 2
- „ 1348. T. Thorp, apparatus for gas lighting and heating 6
- „ 1357. J. Thom, securing door knobs to spindles 2
- „ 1375. J. H. Black, locks 2
- „ 1382. C. Fisher, apparatus for drawing off water, &c. 2
- „ 1388. G. Kent, chimney tops or ventilators 6
- „ 1395. J. Lucas, lamps for bicycles, tricycles, &c... .. 2
- „ 1403. J. Lewis, gas burners... .. 6
- „ 1405. J. W. Urquhart, electric gas igniting apparatus... .. 2
- „ 1406. W. J. Hobroyde, corkscrews 2
- „ 1421. J. P. Jones, combined nail cutter and cleaner 2
- „ 1423. A. J. Boulton, apparatus for cooking, &c. 2
- „ 1425. A. Pengelly and R. Day, velocipedes 8
- „ 1434. E. G. Banner, sewers... .. 6
- „ 1435. B. Finch, chimney flues 2
- „ 1448. J. Dowling, plaiting and stitching machines 2
- „ 1418. A. J. Billing, apparatus for heating water... .. 2
- „ 1482. R. E. Wearden, apparatus for washing clothes 2
- „ 1497. T. Maccall, hot air or Turkish baths 2
- „ 1513. F. Robinson, taps and valves 6
- „ 1517. B. C. Simpson, lamps... .. 2

No. 1544.	C. F. Grimmett, and J. Cook, curtain suspenders ..	2
" 1546.	J. Hood, jun., mincing or sausage machine ...	2
" 1553.	G. H. Wildes, locks or fastenings	2
" 1577.	S. Walker, manufacture of copper tubes	4
" 1581.	J. Jenner, saddles for bicycles	2
" 1584.	G. L. Shorland, fire places or grates and stoves ...	6
" 1588.	H. J. Haddan, guides for saw blades	2
" 1596.	W. Johnson, latches or locks	2
" 1613.	F. G. Fleury, taps and cocks... ..	2
" 1623.	A. E. Gorse, bicycles... ..	6
" 1633.	H. Clegg, driving gear for wringing and mangling machines, &c.	8
" 1655.	H. Conolly, waterclosets	4
" 1667.	T. Forshaw, tricycles and bicycles	2
" 1673.	H. Barratt, circular knitting machinery... ..	6
" 1680.	W. Seantlebury, bicycles, &c... ..	6
" 1687.	C. J. Griffith, motor for driving sewing machines, latches, tricycles, &c.	2
" 1739.	W. P. Thompson, portable spray attachments for baths	2
" 1744.	A. Guillaume and A. Lambert, sewing machines... ..	6
" 1770.	W. H. Luther, metallic baths	2
" 1776.	J. T. Glasier, and A. R. Briggs, sewing machines for ornamental stitching	2
" 2240.	M. Gilmour, locks	6
" 2352.	J. Preston, perambulators	6

ELECTRIC LIGHT FOR PICTURE GALLERIES.

(Continued.)

Another most important factor is the quality of the carbons used. Now, at the present time the demand for this article appears to outstrip the supply, and therefore although an exhibitor—especially one who shows only a few lamps—may be able by careful selection of the carbons to keep his lamps supplied with the best during the period of the exhibition, the ordinary consumer has to take what he can get, and is therefore likely to be disappointed if he expects his lamps to work as those shown in an exhibition.

Making allowance for these considerations, it is possible at all events to make a comparison between different systems, especially when, as was the case at this Exhibition, precisely similar rooms are lighted each by a different system.

The lamps shown in the naivè of the building were principally arc lamps, and were generally irregularly placed, no definite space being assigned to any particular system, except in the case of the space under the galleries at the east end of the building which was lighted exclusively by Brush lamps.

This, therefore, was the only system with regard to the lighting power of which any conclusion could be arrived at from that part of the Exhibition.

Most of the other systems were, however, represented in the rooms on the upper floor, which were lighted each by a particular system. Some of these rooms were nearly 80 ft. square, most of them were about 80 ft. by 40 ft., and some few rather smaller. One of these middle sized rooms was fitted up as a picture gallery, having the walls covered with pictures, and nothing else in it.

The other rooms contained miscellaneous objects, and, as a rule the lamps were placed at heights of only 7 or 8 to 12 or 14 feet from the floor, an arrangement which would be unsuitable for picture galleries.

In two cases the rooms were lighted by diffused light from horizontal screens hung under the skylights, the lamps themselves being hidden, and the rays of light all directed upwards to the screen in the manner adopted a few years ago by M.M. Sautter, Lemonnier et Cie, in their workshops where the lighthouse lenses are ground, and tried in experiments made here three or four years ago with Siemens and Wyde lamps.

The steadiness of the incandescent light of Swan, Edison, Maxim

and Lane Fox places them, of course, in the first rank in this respect. Between these four lamps I could not see that there was anything to choose; they outwardly appeared precisely similar. The question of durability is, therefore, the important one, and this can only be solved by experience.

Among the arc lamps shown in the galleries of the Exhibition there were two which were highly satisfactory in respect of steadiness; these were the "Jaspar" and the "Pilsen" lamps. Of the former three only were shown in the galleries; they lighted one room (about 80 ft. by 40 ft.) by means of diffusing screens, in the method mentioned above. The result was very satisfactory, the light being pleasantly diffused, with an absence of shadows, and being, as far as I could see, absolutely steady. As arranged in this room, however, they would scarcely, I think, have been suitable for picture galleries, as the screens were so low as to cause glitter on the surfaces of pictures. This difficulty might of course be overcome, but a more serious disadvantage is that each lamp has to be worked by a separate dynamo-electric machine, which would necessitate in such a building as this a very large number of machines and of circuits. I think, too, from an inspection of the lamp, that it appears rather complex, and liable to get out of order.

The Pilsen lamp was shown by Messrs. Rowatt and Eyffe, of London. It was remarkably steady, and I never saw any lamp burning badly; as many as six lamps were worked in one circuit from one machine, and doubtless, with a suitable machine, a larger number could be worked in circuit. Of the cost of working I had no means of judging, nor of the durability of the lamp; as, however, a London firm have it, we shall doubtless have opportunities of learning more about it, and it may perhaps be possible to borrow some for a trial in the museum.

The picture gallery mentioned above was most effectively lighted. Ten "Soleil" lamps were used, and these were placed five on each side of the room, at about the height of the cornice so as to produce no glitter. They were, whenever I saw them, perfectly steady, and the light seemed to be only a little yellower than that of the arc lights. In this lamp the light is principally derived from a small block of refractory material, placed so that the arc between two carbon points rises to incandescence. It is, therefore, somewhat similar to the oxy-hydrogen lime light and may be intermediate between "arc" and "incandescent" lamps. The body of the lamp is made of refractory material, and the carbons fall by their own weight as they burn away, without any mechanical arrangement for regulation. It is, therefore, very simple in construction, and apparently free from liability to get out of order. These lamps were worked by the "La Chaussee" machine; three or four of them being on one circuit, and the machine giving three or four circuits. Some of these lamps have been ordered for the School of Military Engineering, at Chatham, were, doubtless, they will be most exhaustively tested, and we shall thus have an opportunity of learning more about them.

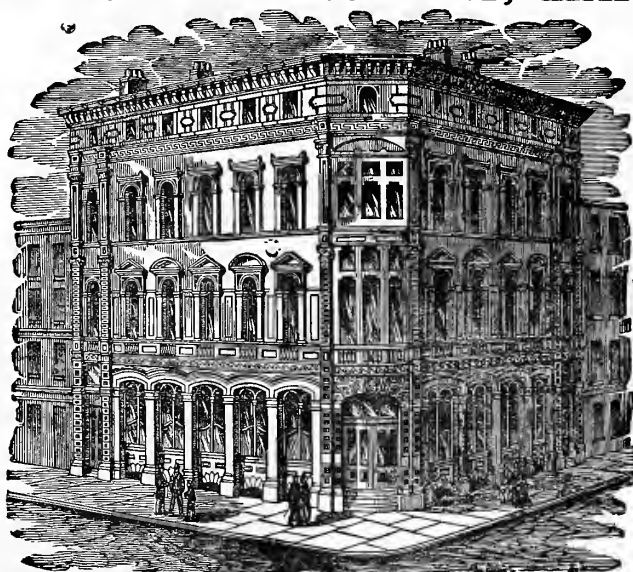
Of the other lamps shown several were very deficient in steadiness or were noisy; of some systems a few lamps, and not always the same, were burning badly or not at all each night that I was there; several, however, were very good, and in most of them some endeavour had been made to make the lamps elegant in appearance, whereas the Brush lamps were of the rough-looking and unornamented pattern with which we are familiar.

With the exception of those which I had mentioned, however, none appeared to offer any substantial advantage over the Brush, and so far as can be judged from the Exhibition this latter is far superior to all other "arc" systems in the number of lamps that can be used in a circuit, and in the distance which the circuit can be carried without serious loss. In the Exhibition forty lamps were worked off the single circuit of one machine, and the experimental lights in the Opera House were worked from a machine in the Exhibition through a circuit of over three miles long, whereas for the other systems tried the steam engines and machinery were placed in close proximity to the Opera House.

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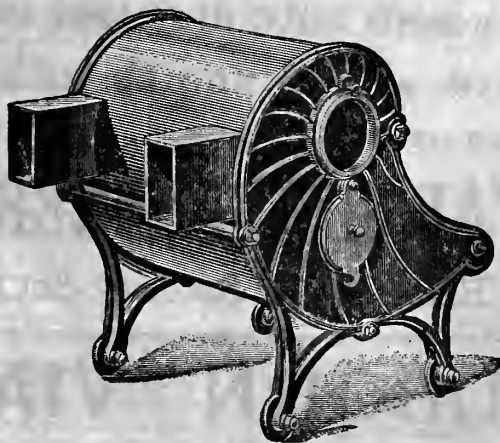
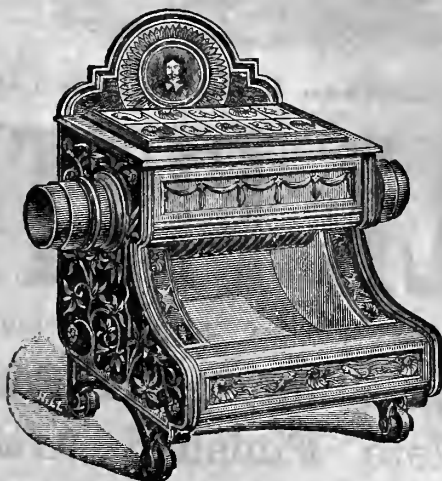
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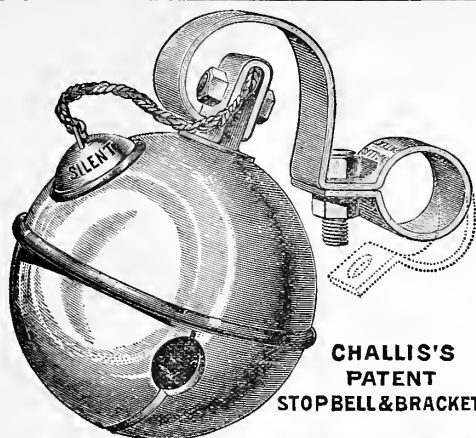
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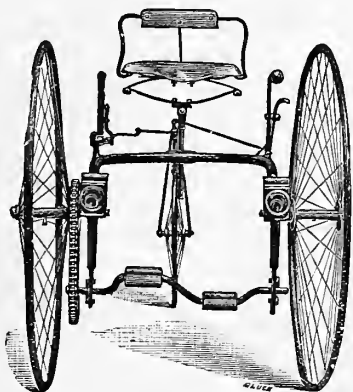
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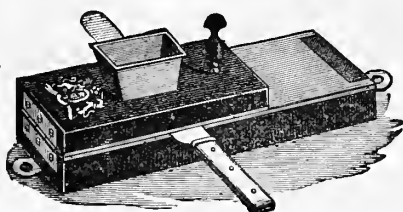
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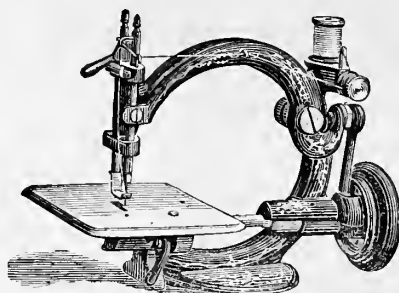
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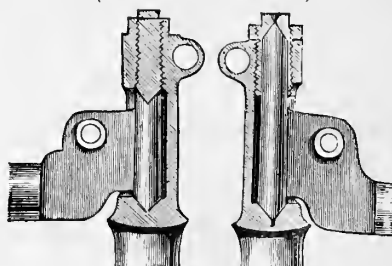
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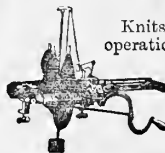
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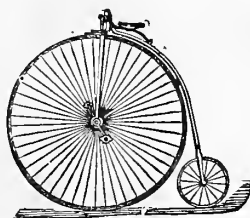
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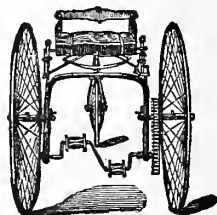
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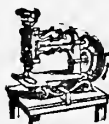
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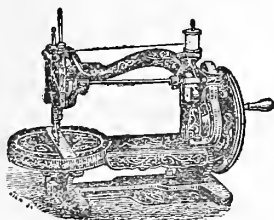
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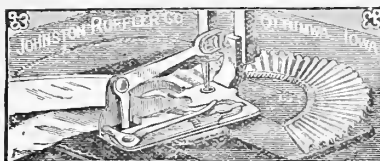
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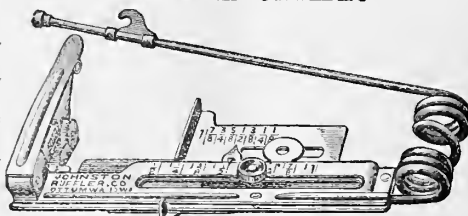
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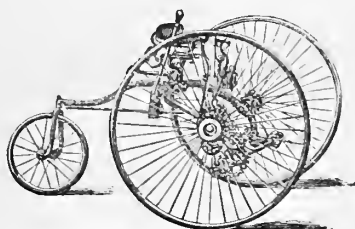
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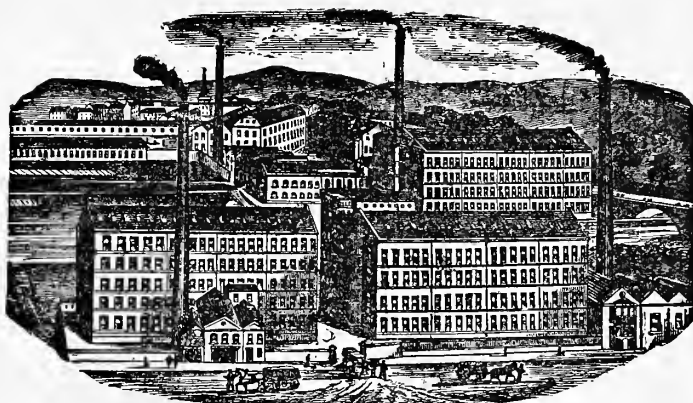
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